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Issue 295

*David Savage course,
plus Chris Schwartz
chest & tools*



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- Shine up: Phil Davy restores some old planes



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Welcome

What a lot we have to be thankful for... look at the picture above, of the saw pit at the Weald & Downland Museum where an excellent wood fair took place, **p56**, then realise how fortunate we are that power tools and machines were invented and keep on being developed for various use levels, like the Jolly bandsaw which Andy King takes quite a fancy to, **p16**. And standards of design and build are getting better all the time, with no less than four coveted 5-star accolades being dished out this month by Andy and by Phil Davy, to the GVS Elipse respirator, **p15**, the Bosch multi-drill, **p20**, and to Matsumura Oire chisels and hammers, **p78**. And the problem of finding places to stow all this tempting kit is made easier with a tool cabinets project by Tony Sutton, **p36**, and pictures of Ed Hopkins' now complete workshop, **p60**. And learning to use it all? Well, Michael Huntley coaches you in the use of hand tools to make lapped dovetails, **p32**, and new furniture course graduates show you what three years' hard labour at the bench can do, with my report on the New Designers show, **p52**. Enjoy.

Andrea Hargreaves, Editor



Andrea Hargreaves
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Phil Davy
Consultant Editor

We endeavour to ensure all techniques shown in Good Woodworking are safe, but take no responsibility for readers' actions. Take care when woodworking and always use guards, goggles, masks, hold-down devices and ear protection, and above all, plenty of common sense. Do remember to enjoy yourself, though.

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Good Woodworking

August 2015

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5 STARS

If he had a hammer
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296
ON SALE
21 AUGUST



WIN!

Course, tool chest and tools

Win a course with David Savage and look out on this view! **30**



PERFECT...

...lapped dovetails

Learn how Michael Huntley does it

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BOG OAK

They're barred!

How Badger's boys built a show bar

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Good Woodworking News

from the bench

Comment, insight, views and news of woodworkers from around the globe



New Axminster workbench

The new Axminster 1700 workbench, the latest addition to the range, sports a bench top of laminated, kiln-dried beech that is lacquered on both top and underside.

The bench top is 30mm thick with a 90mm-deep apron. The large working surface is 1550 x 500mm; overall, including the vices, the bench measures 1700 x 650mm. Both the front and end vices have a double row of bench dog holes extending the width and length of the worktop, and four bench dogs are included. The 360mm-long vices have steel guide bars on either side of a strong central screw, with the maximum opening at 130mm.

The underframe is solid beech. Dog holes in the legs allow you to clamp items vertically. A full-length shelf in the base offers storage for larger tools or materials. This bench is supplied flat-packed with full instructions for assembly, and costs £289.96 inc VAT. For more info go to www.axminster.co.uk



Get sharpening!

Not sure about sharpening procedure? Axminster's Rider Sharpening Station comprises a double-sided diamond stone (1000 and 400 grit), leather strop and honing compound, board and all the instructions for use.

Measuring 250 x 315mm, it is CNC-machined from 13mm-thick synthetic resin laminate. It is unaffected by oil or water and easy to keep clean. Four rubber feet give stability. The stone recess is 228 x 89mm to match the Rider Double Sided Diamond Bench Stone. It is then a simple matter to hold shorter stones in place using a homemade wedge or spacer to fill any gap. A stone needs to be just snug enough to prevent movement.

The 203 x 65mm leather strop removes any remaining minute wire edge and puts a final high polish finish on your edge tools. Designed to work with an Axminster Rider Honing Guide, it is as effective with similar Eclipse-type guides. The edges of the board feature recesses which act as set-up guides for bevel angles of 25°, 30° and 45° for plane irons, and 25° and 30° bevel angles for chisels. The setup costs £59.96 from www.axminster.co.uk

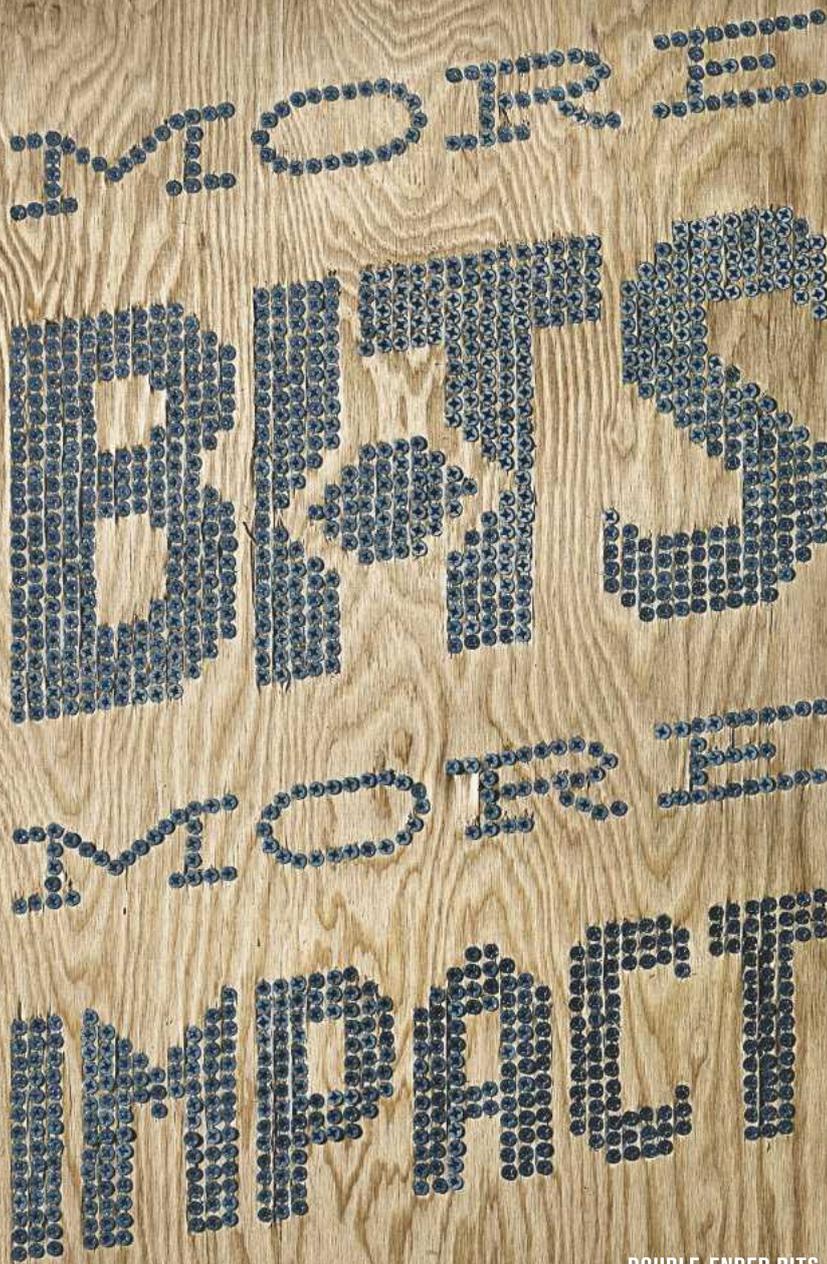
Nova from Teknatool

BriMarc Tools & Machinery is now in partnership with New Zealand company Teknatool, which is bringing its Nova range of woodturning kit to the UK and Ireland. For more than 25 years Teknatool has been designing and manufacturing a brand that already has a large following here. And BriMarc has been a force here for the past 20 years.

Just one of the products now available is the Nova Comet II Midi Lathe, pictured. One of the most popular lathes in its class in North America will now be available for the first time via UK and Irish retailers. Also in the pipeline are some new Nova releases featuring the proprietary DVR smart motor, of which great functionality is expected.

Nova products are being distributed through the UK and Ireland via BriMarc retailers. For more info visit www.brimarc.com





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irwin.co.uk

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TOOLS



Makita accessories

To help celebrate its centenary Makita has added accessories to its range. The multi-purpose TCT-tipped hole-saws recently introduced as a 9- or 10-piece set are now available as individual items in 21 sizes ranging from 22mm up to 105mm. The body of these hole-saws is carbon steel and the TCT tips are tungsten carbide for work with wood, MDF, plasterboard, PVC, glass fibre, soft tile, brick and limestone.

The range of Makita machines utilising two 18V lithium-ion batteries to generate 36V of power is expanding quickly, so users should welcome the twin-port fast charger, pictured, that takes just 22 minutes to fully charge two 18V 3.0Ah batteries and two 4.0Ah batteries in 36 minutes. With an LED charging display, and full charge audible alert, the Makita DC18RD fast charger has a useful USB port to charge your smart phone, a forced cooling system for battery protection and a built-in electronic current limiter for overload protection.

The Makita DEAWST06 portable, extending mitre saw stand, pictured, is compatible with the majority of Makita mitre saws. It features adjustable extending arms on both sides of the stand and one arm has a built-in roller support. Fully extended the stand supports are 2.55m wide. The individual leg height can be adjusted to ensure stand stability. Folded, the 16kg stand with carry handle can be wheeled on built-in castors.

For more info visit www.makitauk.com

18V cordless power from Stanley

Stanley Tools is launching its 18V cordless power tool platform, an innovative system that allows one interchangeable battery to be used across all FatMax tools in the 18V range.

The platform includes eight cordless power tools, ranging from an impact driver to an oscillating tool and flashlight. There are two Stanley FatMax 18V batteries to choose from: a 2.0Ah for light cutting, drilling and driving and the 4.0Ah with a longer run time, for heavy-duty cutting and grinding. Charge times are one or two hours respectively.

The platform can be used by existing FatMax users, who can take advantage of the bare units, while those looking to create their tool kit from scratch can take advantage of the new Starter Kit which includes an 18V hammer drill, an 18V impact driver, two 18V 2.0Ah Li-ion batteries, charger and storage bag.

For more info go to www.stanleytools.co.uk



Veritas 3-piece chisel set

New to the Veritas range are these three chisels with blades made from Veritas's unique PM-VII steel. They are about one-third of the scale of the Veritas bench chisels, each one being approximately 80mm long overall. The three tools in the set have $\frac{3}{16}$ in- (9.5mm), $\frac{1}{8}$ in- (6.3mm) and $\frac{3}{32}$ in- (3.2mm) wide blades for fine, controlled cuts, such as box making. Their $\frac{1}{8}$ in- (2.4mm) thick PM-V11 steel blades are hardened to HRC 61-63 and ground flat on the face. They have a 25° bevel. The chisel handles are bubinga with a stainless-steel ferrule. The set costs £43.96. For more info go to www.brimarc.com



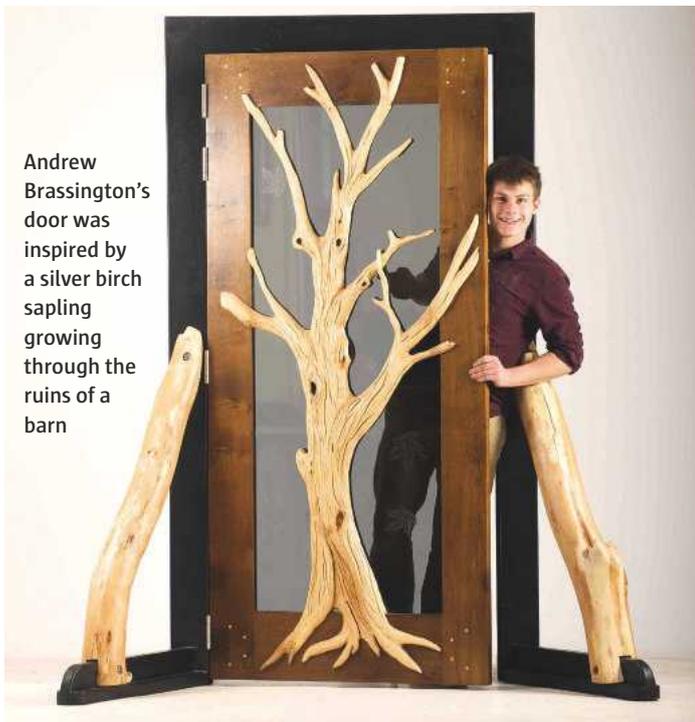
Lithophone commission

Dovetailors made a lithophone for Grassington Festival, using local limestone rock. David Wilson, the company's creative director, said: "A lithophone is a musical instrument made of pieces of rock, which produce musical notes when they are struck and is similar to a xylophone or glockenspiel. Ours is made using the local limestone rock that characterises the Yorkshire Dales' landscape around Grassington."

Last year the team designed and made a 2-octave lithophone for



Clitheroe Castle Museum using locally sourced stone. "We really enjoyed the intricacy of that task and my background in engineering came in handy when we were faced with some very complex mathematical calculations to ensure the stones were placed and supported at just the right point to generate the exact tone required," said David.



Andrew Brassington's door was inspired by a silver birch sapling growing through the ruins of a barn

Furniture shown at Scottish parliament

Two young Canadian and two UK woodworking students at the Chippendale International School of Furniture have won this year's top honours – with two of the students' pieces being exhibited at the Scottish parliament.

Student of the Year was Andrew Brassington from Ontario, whose course work included a monumental door made from locally-sourced Scottish timber – inspired by a silver birch sapling that he saw growing through the ruins of a collapsing barn in southern Ontario.

Design Student of the Year was Ria Da Costa, originally from Trinidad and Tobago, now also living in Ontario, who created an intricate Lennox Desk, named after her grandfather, with no less than 2,167 pieces of veneer on its surface.

Best Portfolio was awarded to Fiona Thorburn-Steel, who lives near Edinburgh, whose portfolio included a stunning cabinet in solid olive ash with a wenge veneer and ebony handles. Functional but elegant, the cabinet has flowing lines that complement the geometry of the piece and make it also a work of art.

The fourth top prize, Students' Choice of the Year, went to Rob Sykes from London. His Ruby-Rose Desk, named after his god-daughter and made from wych elm, is based around the three Rs – with drawers whose interiors focus on aspects of writing, reading and arithmetic, complete with an abacus. There is a shelf for a Kindle or iPad, USB ports, and the cable is hidden within one of the desk's legs. His desk is

based on an original design (The Laura Desk) by Benjamin Klebba of Phloem Studio in Portland, Oregon, USA.

This year, for the first time, a number of pieces were exhibited at the Scottish parliament, including Ria Da Costa's and Rob Sykes' desks.

For more info about the school go to www.chippendaleschool.com

Baxter takes a shine to Fiona Thorburn's cabinet



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30 Aug-3 Sept Furniture repair & care

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3-4 Beginner woodturning (Axminster)

5 Pyrography (Axminster)

7 Sharpening with Tormek (Sittingbourne)

13-14 Beginner routing (Axminster)

24-25 Wood machining (Axminster)

28 Intro to turned boxes (Axminster)

Axminster Tool Centre

Unit 10 Weycroft Avenue

Axminster

Devon EX13 5PH

Tel: 0800 975 1905

4-7 Veneering & laminating

10-11 Sharpening

Peter Sefton Furniture School

The Threshing Barn

Welland Road

Upton upon Severn

Worcestershire

WR8 0SN

September

7-11 Sack-back

28 Sept-3 Oct Continuous-arm

The Windsor Workshop

Churchfield Farm

Church Street

West Chiltington

Pulborough

West Sussex

RH20 2JW

3-6 Make simple furniture, complete beginners

4-6 Woodcarving, beginners

14 Woodturn small bowl

15-18 Woodturn wet & seasoned wood bowls

20-25 Detailed occasional table

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7-8 Beginner routing (Axminster)

7-8 Bowls & platters (Sittingbourne)

9 Taster day (Axminster)

10 Pen making (Sittingbourne)

17-18 Nutcracker wooden figures (Sittingbourne)

17-18 Woodcarving (Axminster)

21-22 Beginner woodturning (Axminster)

Axminster Tool Centre

Unit 10 Weycroft Avenue

Axminster

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Wendy's an inspiration

Wendy Heller from London, nominated by colleague Katie Letchfield for being an inspiration to her students and the local community, is a finalist in Irwin Tools' National Tradesmen Day competition to win a Ford truck worth more than £40,000. Wendy is the Training, Development and Curriculum Manager at the Construction Youth Trust in Bermondsey and teaches construction skills to 16-30-year-olds. Her colourful joinery career has taken her all over the world, constructing sets for films and TV.

She said: "It's wonderful to be nominated... Vocational careers can be overlooked, especially when talking about jobs for girls. The young women I work with really shine, both creatively and intellectually."

If you know a tradesman worthy of the 2015 Ultimate Tradesman' title visit www.irwin.co.uk/nominate and tell them why.



Wendy Heller is in the finals



Projecting shelves

Andrew Lawton's chest of drawers is his answer to his clients' particular brief, incorporating shelves for displaying pottery. Made of American cherry and Fenland bog oak, with drawers of sycamore and cedar of Lebanon, it is 1760mm long

Wasp threat to chestnuts

The oriental chestnut gall wasp has been discovered in Kent. A Forestry Commission spokesman said: "This is a pest that only affects sweet chestnut (*Castanea*) species of tree, and does not pose any risk to people, pets or farm livestock. We have launched an immediate investigation of the surrounding woodland and, once we have fully assessed the situation, we will swiftly take any appropriate action."

Oriental chestnut gall wasp is a threat to sweet chestnuts in several regions of the world. It reduces nut production and can weaken the tree, leaving it vulnerable to other diseases. The UK has Protected Zone Status against this pest, and the plant health services must be notified of all pending imports of sweet chestnut planting material before its

arrival in the UK so that a proportion can be inspected.

As part of investigations into the outbreak, the new Observatree group of trained volunteers has agreed to help survey more widely for evidence of the pest.



Evidence of chestnut gall wasp action

OFFCUTS

Tooting, London DIY business owner Bobby Singh went to Nepal to offer help after the devastating earthquakes and is now trying to raise £50,000 to build 500 semi-permanent living structures. Find his appeal on www.WeAreOneNepal.org



The Institute of Carpenters (IOC), the membership group for professionals working in wood trades, celebrated its 125th birthday last week by holding an event at Carpenters' Hall in London.

Sponsored by IronmongeryDirect, members shared best practice advice and demonstrated their work and historic tools.



Amy Coles, a pupil from Chatham and Clarendon Grammar School, was announced as this year's MakeIT! overall winner for her excellent design, combining an innovative approach, great care and attention to detail and an excellent understanding of the brief. Best teacher award went to Tom Brewin, also of Chatham and Clarendon.

Good Woodworking Free Reader Ads

Machinery

ET JTS - 250S table saw with 250mm diameter blade, with JET universal mobile base, £230, buyer collects

Reg Lloyd, Essex ☎ 01708 727388

Tormek Supergrind 2000 6 jigs, planer jig, excellent order, £390; Multico mortise K1, 4 chisels, clean, tidy, heavy, £225

Mr RF Ridgewell, Surrey ☎ 01372 275062

DeWalt DW1251 radial arm saw, excellent condition, hardly used, includes legstand, buyer collects, £250

David Banks, Cheshire ☎ 01606 551747

Scheppach Basato 3 bandsaw, 6in depth of cut, 13in width of cut, used lightly by hobby turner to cut mainly bowl blanks, as new condition, spare blades, £250

Davey, North Oxfordshire ☎ 07707 242948

Hand tools

Stanley No.4 smoothing plane, in box, £35; Stanley No.50 combination plane with blades, in box, £55; Record No.120 block plane, £18; Hobby thumb plane, £20; Stanley No.151 spokeshave, flat, £15; Stanley No.151 spokeshave, round, £15; all +p&p

Mr D Haviland, Surrey ☎ 0208 641 4238

Stanley No. 9 1/2 block plane, excellent condition, £70; Cox adjustable bench plane, infill rosewood, brass clamp, £100

Harold Cox ☎ 01283 563798

Power tools

Bosch GHO 31-82 240V power plane, angle guide, spare blades, dust bag & case, £60; Fein Dustex 25l dust extractor, latest model, little used, £85

Mr I Wilson, Kent ☎ 01322 526897

Miscellaneous

Victorian stripped pine shutters and architraves, sound condition, ex mansion, various sizes; some modern yew wood 3 x 3ft, offers invited

Mr R Barnes, Berkshire ☎ 01189 733764

Mk II Jointmaster sawing jig for cutting wood to differing angles and depths, with instructions, £5; set of plans for medium fully carved rocking horse by Anthony Dew, suitable for 3- to 8-year-old, £5; Arcoy Rabetter, old machine for cutting rebates using wobble washers, included, and electric drill, not included, £5

Roy Holly, Hampshire ☎ 01256 415247

Wanted

Switch unit for DeWalt DW1201 Radial Arm Saw, Weber Unimat WTN22-555 rated current 4A

David Cook, Worcestershire ☎ 01562 66497

Wadkin fence & rails for 10in AGS table saw, also fence & rails for Wadkin 20in BZB bandsaw or parts of fence

Robert Rodenhurst, Clwyd ☎ 07724 386061

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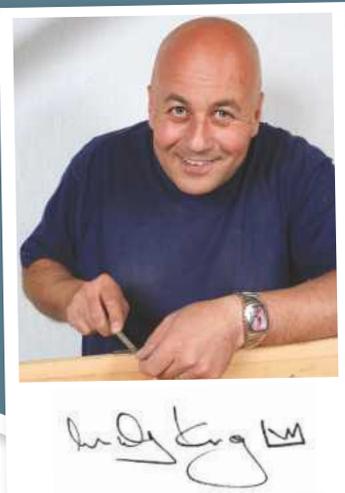
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Good Woodworking Kit & Tools

New products, tools and tests

Andy King, Technical Editor
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GVS Elipse respirator

You can't put a price on health, but at £22 the Nuisance Odour Respirator has to be a bargain



▲ This small twist-lock button secures the front grilles



▲ Once released, the grille hinges back out of the way to gain access to the filter



▲ The filters simply peel out of their recess; note the charcoal layer for odour control



▲ The flat filter design allows great all-round vision and the wide straps are comfortable

With its flat side-mounted filters the compact GVS Elipse keeps your view unobstructed. The soft rubber face seal is silicone and latex free to minimise skin reaction, and it seals very well once the elasticated straps are adjusted.

It is P3 rated, to protect you from nuisance and harmful dust from woodworking applications through to silica-based masonry and particulates including airborne liquids and fumes, with a 99.95% efficiency at 0.3 microns. The filters have a charcoal layer to mask odours and are swapped simply via small twist-lock buttons behind the seal.

While new regulations on extraction cover the collection of dust from sanders, routers, saws and other dust-generating machines at source, there are always airborne particles that will escape and that's where respirators like

this one come in, capturing the escaping particles that powered extraction misses. Even so, it is recommended that they should only be used for around an hour at a time. The comfort factor as well as the additional effort to breathe through the filters probably sets the time you can comfortably use one to be honest, although I found the Elipse particularly lightweight with a good soft fit and with very good airflow for general work; I was able to breathe easily without having to suck in hard to get air into my lungs.

The wide elasticated straps were also comfortable on my shiny noggin.

Conclusion

With the good all-round view the mask affords, woodturning is an ideal application for its use

as dust is constantly airborne; some of the exotic timbers often used can be especially noxious and damaging to the lungs. It also fits the bill for routing where an unrestricted view on finer work is so important.

The design also allows for additional eye protection from safety glasses or prescription glasses without encroaching on the mask itself.

At this price and with the protection it affords it's a 5-star toolkit or workshop essential, meeting all current legislation for respirator masks. Not good for beards though.

Good The Woodworking Verdict

+ Minimal vision restriction; easy-change filters; charcoal layer; 2 mask sizes

- Unsuitable for beards or facial hair

Rating ★★★★★

Typical price: £22.18

Efficiency rating: P3+odour control

Safety standard ratings: EN143:1998, BS EN143:2000

Web: www.johnsonstoolcentre.co.uk

Prices

Our product prices reflect typical values as we go to press. We cannot guarantee these prices, though, and thoroughly recommend that you shop around.

How we rate...

- ★ Don't get your hopes up or your wallet out!
- ★★ Well, it works but really needs improvement
- ★★★ Performs well, but you will find better
- ★★★★ Great performance and value for money
- ★★★★★ So good, even Andy would get his wallet out!

Jolly good for the lolly

In the Jolly 45, recognised brand ACM has come up with a compact but solid and well specified machine

Made in Italy, the Jolly 45 is driven by a 1.5hp 100% duty cycle rated motor for durability under load and is matched by a German-made Klinger & Born braking system to ensure the heavy cast-iron band wheels are under full control when stopping the machine. The band wheel tyres are bonded rather than simply stretched to eliminate slippage and with the weight of the balanced wheels, the saw has a very stable run both at start up and under load.

Equally as robust are the tensioning spring and post for setting the

guide height above the work. Indeed, the spring is so heavy that it wouldn't look out of place on a car, and is paired with a heavy-duty Acme-threaded adjuster wheel to set the tension.

A simple finger indicator is linked to show the tension in relationship to the blade being fitted, and a viewing window in the top door allows this to be checked prior to setting the saw in motion.

The tracking is set from the back of the saw with a decent-sized knob to gain good purchase, and has a large locking lever to retain the setting. Alongside this is the locking knob for the guide post while positioned on the side is the rack & pinion knob to set the guide height.

The upper and lower guide assemblies are identical: two side-adjusted discs and a similar rear disc for the thrust control. Each has a tool-free adjustment to fine tune the settings when a blade is swapped to a different width, with the exception of the lower thrust disc which needs a spanner as space is restricted to fit a thumb turn or knob.

Setting the side discs is a breeze; back off the locking rings, screw the disc holders in or out until they snug the blade, back off a fraction and retighten the locking ring.

Cast-iron table

The table is cast iron and finely finished. The front facing slot is unrestricted by the fence bar as it is fitted entirely to the left of the slot for easy blade swapping. Therefore with a wider blade there is no need to twist it onto the wheel.



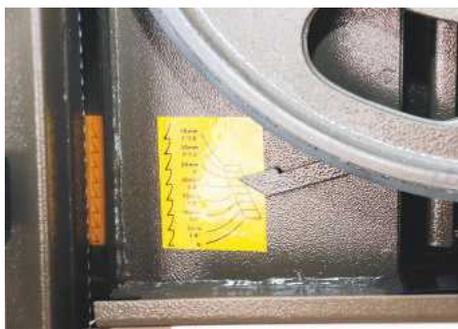
The Jolly 45 is as handsome inside as it is out



ACM Jolly 45 bandsaw



▲ The heavy tension spring is just visible behind the cast band wheel



▲ A basic needle indicates the tension setting. The top door has a viewing window to check this



▲ The tensioning wheel is large and easy to operate



▲ The lower guides are easily accessible and are identical to the upper ones



▲ All the guides have tool-free adjustment and can be finely set



▲ Each door is microswitched but still has a lock to secure it



▲ The deep fence is easily set for square by minor adjustments to the running bar



▲ This adjuster sets the table square to the blade



▲ Cutting this wet oak caused the saw to slow as it clogged in the cut

The table is fitted to a heavy double trunnion with a large box-spanner adjuster. The table is pretty heavy and I found the long welded handle allowed me to control the angle before locking it off with the Bristol lever. One slight niggle: the blade got pinched on the table insert. This is because it is so thick and the saw, being brand new, hadn't been cut to accommodate the tilting table so it needs a first cut to trim it for this.

Jacking screws on this block ensure it sits dead flush to the table to prevent snagging on finer cutting jobs.

Of course the features often found on the lighter trade and hobby machines are dispensed with in favour of a more Spartan tank-like construction to deal with the day in, day out heavy work it's capable of, and the Jolly is no different. So there's no quick tension-release lever, 2-speed option or suchlike, but everything on the saw is heavily constructed from quality materials, with a continuous welded fabricated framework to maintain the tension under the load imparted to drive the blade up to 35mm wide.

On test

I tested the saw on a variety of rip cuts in oak, and first off was a piece around 150mm deep, unseasoned, wet and heavy. It put the saw under good load as despite being fitted with a decent-quality skip-tooth blade, the sawdust built up and compacted around the blade and in the gullets as the dust was so wet. The saw slowed considerably, requiring a slower cutting speed, but it still made cut after cut.

A similar but deeper piece, slightly drier, cut with ease, so I gave it a final workout cutting some thin slices from a 250mm-deep seasoned board of ash. I could feed at a constant speed, with excellent results, and with no vibration through the saw, leaving a very clean finish on the stock.

Conclusion

The ACM Jolly 45 punches very well for its size; it's not the biggest out there in physical size, which will fit in well with anyone looking to get a premium saw that puts out decent performance and power without taking up premium space.

Good The Woodworking Verdict

+ Heavy build; excellent quality; easy blade swaps

– No resaw post; 16amp power supply needed; blade pinched on table insert

Rating ★★★★★

Typical price: £1994.50

Motor: 1.5hp

Throat depth: 410mm

Max cutting height: 280mm

Table size: 420 x 580mm

Blade length: 4000mm

Blade speed: 3920 metres per minute

Weight: 170kg

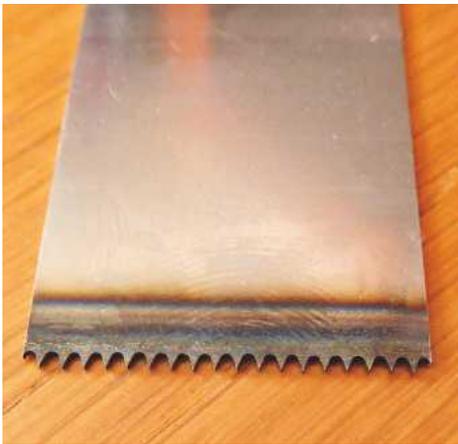
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Smart ideas!

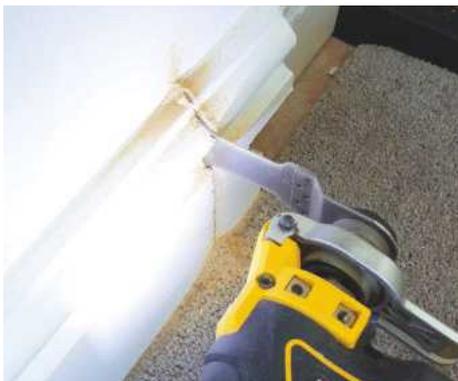
Smart is making big inroads into the market of compatible blades for multitools



▲ The Multifix head is designed to fit pretty well every manufacturers' machines



▲ The Piranha blade has sharp hardpoint teeth, ideal for hard- and softwoods



▲ It's easy to make long freehand cuts with the Smart blades

The SMTX Multi-Fit design covers all the major manufacturers' retention systems for a 'one blade fits all' option, giving you an alternative to own-brand designs that can be limited and expensive.

Smart also offers alternative profiles to the SMTX if you do own a more obscure or older machine as well as the newer DeWalt design with the clipped rear opening slide-on style. This DeWalt style uses the same SMTX profile to cover the majority of models, but my test blades were the fully enclosed type.

The massive range covers scraping, cutting metal, ceramics, and of course, wood as well as sanding so I looked at the more basic Piranha and Nail Buster Extreme.

The Piranha has a heat-treated blade, much the same as a hardpoint handsaw, but is still prone



▲ Using the Nail Buster blade allows plunging cuts through into the plaster below



▲ The resulting finish is clean and smooth



to damage if it comes into contact with metal or masonry. However, it works well across hard- and softwoods and on plastics such as waste and down pipe.

I found the blade to be durable, very sharp and fast-cutting in timber, even with its fine-tooth pattern, retaining its edge well.

For increased durability the Nail Buster blade has a wavy-set hacksaw profile with a titanium coating. It can be used on fibreglass, gypsum and non-ferrous metals and of course, as the name suggests, nails. For reclaimed timber or cutting into work already in situ, it's an ideal choice. I used it to cut some skirting back after a new fireplace was installed, cutting cleanly through the timber and into the plaster behind without dulling. However, I found that even as durable and hard as these Nail Busters are, the newer hardened screws can still take the edge off of them so mild steel and softer metals are its forte if it is to last.

It also has a finer tooth pattern than the purely wood-only styles so the cut, while clean, was marginally slower. The range includes some very affordable blade options, from 10mm to 63mm wide and 42 to 67mm depth as well as some pricier specialist ones including diamond-coated for tiles and glass.

Conclusion

With such a wide range and quality, Smart has certainly made life easier, covering pretty well every model of machine out there into the bargain.

Good The Woodworking Verdict

+ Fast cutting; different blades for different materials

- Can be expensive; some blades can be easily damaged on some materials

Rating ★★★★★

Typical price: Around £7.00 upwards (Nailbuster around £15.00, Piranha around £9.00)

Blade cutting types: hardpoint, metal, diamond, ceramic, scrapers

Blade widths: 10mm-63mm

Blade styles: straight, cranked fan, crescent

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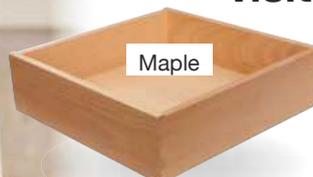


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5-star fave

With the many drills on the market why does Andy think this one is so special?

Of course no-one would admit to having a favourite child, but when it comes to tools I guess there's some room for manoeuvre... For sheer adaptability, Bosch has more than come out fighting to gain the title of my favourite drill with the GSR 18 V-EC FC2 Professional. It's not the first to have a multi-chuck option – Festool, Ryobi, Milwaukee and Metabo all offer variations – but Bosch has gone the extra mile to include an SDS adaptor within the setup.

The drill body is diminutive with no chuck fitted, just 147mm long whereby it becomes a



▲ Each chuck has a high-quality alloy connector that matches the connector on the drill



▲ The chucks are secured with a twist-lock collar



▲ The body has a standard 2-speed selector switch and torque collar



▲ This offset chuck will get as close as 11mm from an edge



▲ You can rotate it to any position around the drill for different applications



▲ For restricted areas the right-angle chuck is very handy

Bosch GSR 18V-EC FC2 Professional drill



▲ Like the offset chuck it can be repositioned for better access



▲ As a standard drill it works flawlessly and with power



▲ The SDS chuck is powerful, quick and efficient for masonry work



▲ As a direct-drive screwdriver it powers in concrete screws with ease...



▲...and is equally impressive driving into timber



▲ There's also plenty of power on right-angle applications, easily drilling 32mm holes

small but powerful screwdriver. This function is designed for standard $\frac{1}{4}$ in hex bits fitting directly to the drive spindle. It punches enough power to easily drive 100mm concrete screws without lagging, and will drive them well below the surface of the timber. The power is enough that you feel the strain on your wrist as it bites rather than the drill limping along and stopping short.

An impact function would certainly eliminate this, but the 5-in-1 functions on offer that are based around a standard drill/driver body wouldn't allow it, and I guess that five functions is a decent enough offering!

Eighteen positions

The drill body has an 18-position torque collar for finer screwdriving work as well as a very responsive variable-speed trigger which works for me as it's a device I use extensively rather than torque-setting collars.

For standard drilling jobs the 13mm capacity 3-jaw chuck comes into play. It clips over the drive spindle and is held with a twist-lock collar, known as the FlexClick System, but you have to remove any screwdriver bit in the hex spindle first as each chuck has a hex drive within it that has to engage the spindle.

Having to remove and re-insert the driver bits each time is the only real negative if you're engaged in a project that involves a lot of drilling and driving.

A second 3-jaw chuck of identical build and capacity to the standard chuck is set at 90° for angled work into restricted areas and can be put into any of 16 positions to achieve optimum access.

The manual doesn't state if it generates the

same amount of torque but it does indicate that to prevent damage to the gearbox a maximum torque setting of 18 should be used when setting metric bolts.

I checked the tool by drilling 32mm holes into softwood and it lapped it up with ease so it should find favour with kitchen fitters especially where holes for pipes often need drilling into tight spots.

However, to prevent damage to the machine I think the manual needs updating to reflect whether this particular chuck is designed to drill to the maximum 38mm capacity in wood that the standard chuck is capable of, as there's no reference to drilling capacity for this particular accessory.

On this same kitchen fitting theme, screwing tightly against an edge or into a corner follows hand in hand with kitchen work and the third head, again able to sit in 16 different positions around the drill spindle, will get into any restricted spots.

This chuck has a hex driver bit holder with a pullback sleeve chuck to secure the driver bits, and will work with the shorter 25mm ones to keep the overall length to a minimum.

SDS head masterstroke

But to make it the all-singing-all-dancing drill that it is, the SDS head is the masterstroke. Again, it utilises the FlexClick retention, and at 146mm long it does extend the drill length to almost double when fitted, but this is to account for the SDS mechanism within it. It operates in identical fashion to a standard SDS drill so is very efficient.

The impact rating isn't the biggest at only 1 Joule, but testing it into 7Nm concrete blocks

with a 6.5mm drill while doing a bit of a refurb in the garden was fast and very efficient, and it will drill up to 10mm into masonry applications, ideal for most work involving any wall plug applications especially.

Conclusion

Despite the obvious kitchen connotations that the multi chucks offer, anyone who wants to travel light while retaining a gamut of options will find appeal in this setup.

Whether around the house or especially for the jobbing chippy doing a lot of different work on a daily basis from snagging or domestic refurbishment situations such as new bathroom fittings, curtain rails and so forth, or new work such as fitting locks, assembling and fitting flatpack furniture and other such applications it's all in one box, and it does a cracking job across all its functions so gets top marks from me.

Good The Woodworking Verdict

+ Multiple chucks for all bases; high quality; compact design; everything in one machine
– Driver bit needs to be removed when fitting chucks

Rating ★★★★★

Typical price: £480.00 with all chucks and 2x4Ah batteries

Max torque: 50Nm

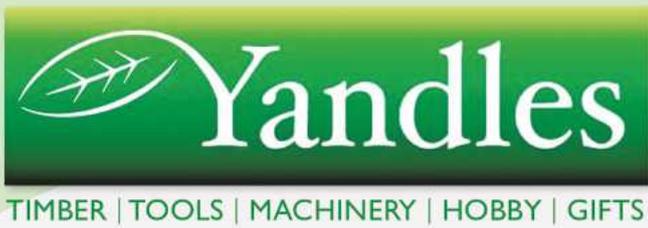
Speeds: 0-500, 0-1700rpm

Max impacts: 4800 bpm

Chuck capacity: 13mm

Max drill in wood: 38mm

Max masonry: 10mm



Yandles of Martock will be holding one of the largest dedicated Woodworking Shows in the UK on Friday 4th, 10am - 5pm and Saturday 5th September, 10am - 4pm - 2015

The event will be held in our historic Sawmill

Our events attract around 6000 visitors from throughout the UK and Europe and gives Members of the Public and Professional Woodworkers a chance to see what is going on in the Woodworking World with free entry and parking.

There will be in the region of 50 manufacturers attending, including well-known names such as Record Power, Charnwood, Robert Sorby and Triton to more specialist company's such as Hot Spot UK, who specialise in Wood burners for the



workshop and Miles Craft. See all their latest equipment and take advantage of their special offers. This coupled with a show discount on timber and shop stock makes it an opportunity not to be missed.

We are very excited about our show line-up which includes **Phil Irons, Simon Hope, Andy Rounthwaite** and **Andy Coates** demonstrating Woodturning. We also are pleased to announce that we have the author of 'Letter Carving', **Andrew J. Hibberd** demonstrating, part sponsored by GMC, who will be providing their wide variety of books to satisfy all of our Woodworking Visitors interests.

For something different, this year we have a hurdle maker attending along with a Willow demonstrator plus many more stands and demonstrations. Watch them as they show off their amazing talents and get motivation from their ideas.

This event is open to everyone, with **FREE PARKING & ENTRY**, as we feel very strongly that you shouldn't have to pay to browse and shop.

We also think that with so many visitors and exhibitors expected to attend, our Show gives a major boost to the local economy which is so important in this economic climate.

The Hobby shop, after the success of the last show are again offering mini taster sessions from wet needle felting to Dorset button making. If someone in your party is not so interested in the wood working side why not book them a session by phoning **01935 822207** and asking for the Hobby shop.

Hobby demonstrations will be taking place during the day, also don't miss the chance to visit our 303 Gallery which offers a wonderful array of local Craftsmen's work.

Don't miss out on an inspirational day out, put it in your diaries now!

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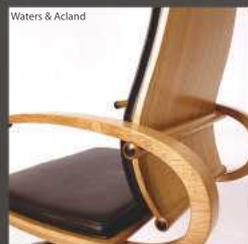
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Precisa 3.0 P-1	Workshop	Inc STC + TWE + TLE (see below for explanation)	3.5 / N/A	90 mm x 1400 mm	£1207.50	£1449.00
Precisa 4.0 P-1	Professional	Inc 1.4m STC + TLE (ditto)	3.5 / 5.2	87 mm x 800 mm	£1775.00	£2130.00
Precisa 4.0 P-2	Professional	Inc 1.4m STC + TWE + TLE (ditto)	3.5 / 5.2	87 mm x 800 mm	£1980.00	£2376.00
Precisa 6.0 P-1	Professional	Inc 2m STC + TLE (ditto)	4.0 / 6.5	110 mm x 1400 mm	£2416.67	£2900.00
Precisa 6.0 P-2	Professional	Inc 2m STC + TWE + TLE (ditto)	4.0 / 6.5	110 mm x 1400 mm	£2590.00	£3108.00
Precisa 6.0 VR P-1	Professional	Inc 2m STC + TWE + TLE + scorer (ditto)	4.0 / 6.5 + HP scorer	110 mm x 1400 mm	£2890.00	£3468.00

STC = Sliding Table Carriage. TWE = Table Width Extension. TLE = Table Length Extension.

Scheppach Precisa 3.0 is designed by scheppach in Germany but made in China where scheppach resident engineers oversee manufacturing quality control. Precisa 3.0 has the same warranty as Professional Series. Scheppach machines have been sold and serviced in the UK by NMA since 1972. Go to nmatools.co.uk and see what users say about NMA unprecedented service.

Good Woodworking Solutions



Funny old thing: the other day, I'd stopped by at Peter Quinn's Furniture Craft School (GW275) when another visitor dropped into the workshop. After the usual pleasantries, during which he introduced himself as a psychiatrist, he showed an interest in some of the pieces that the students make on the course. Approaching a small, Shaker-style table made in pearwood, his first question to Peter was: "Is it stable?" and for a moment I thought that he might be asking whether fruitwood is prone to all sorts of neurotic behaviour. As it turned out...

Dave Roberts, Consultant Editor

Sense & sensibility

...he was enquiring about the knack for ensuring that the legs of a piece of furniture are all the same length. Oh, how we laughed. However, out of curiosity – and half-thinking of the troublesome sapient variety in the late Terry Pratchett's Discworld novels – I checked on the magical properties of pearwood: apparently, it's considered a very 'grounded' timber in spiritual terms, helping us to achieve clarity and simplicity, which would mean that it is, in fact, a timber perfectly in sympathy with a Shaker-style side table.

Leaving aside the folkloric qualities which have been ascribed to pearwood, even the least fey of furniture makers will appreciate its working properties: its relative uniformity from sapwood to heartwood; the ability of its fine, untroublesome grain to take detail from sharp tools and reward accurate work; its colour – which is warmed and made even more consistent by steaming – and readiness to take a finish – though oiling, I'm told, can lead to patchiness. No-one could doubt, either, its value as an accent timber when its quiet appearance is used to balance the figure of a livelier wood.

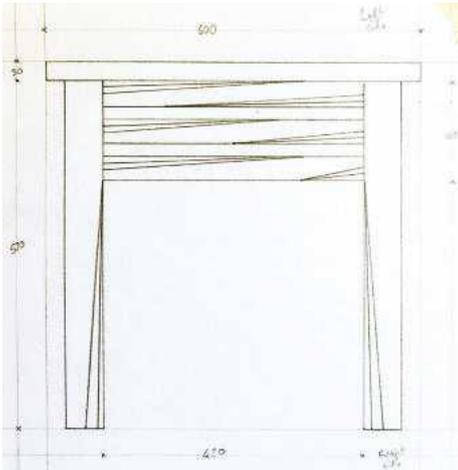
Touched by a spark...

Trick cyclists being what they, of course, Peter's visitor – had he been a woodworker – might've crooked an eyebrow and hinted darkly at pearwood's formative years and its temperamental reaction to air-drying. Terry Porter's *Wood: Identification & Use* tells us, for



You get the idea: the cross section of one of George's table legs showing the 3-dimensional 'sunburst' of its stepped tapers

instance, that it is slow drying and will warp and distort unless the stacks are weighted, which is why it responds better to kiln drying. On the other hand, pearwood was a timber much valued by the Immortal Krenov, especially in its unsteamed form which, Krenov maintained, has "more charm" though less predictability in terms of its colour. When he found the delicate flashes of colour in planks of pearwood, a touch of warp was of secondary importance to him: "Don't machine that surface!" he warned; squaring up the timber would probably remove the interest which in all likelihood lies in only the very surface of the board. Instead, his recommendation was to, "hand plane [the plank] following the warp; if



As drawn: in combination, the tapers' facets will create a lot of interest within its otherwise rectilinear form

possible, make careful saw cuts on each side of the colour (so as not to spoil its pattern)... then re-saw to a thickness which is suitable for, let us say, a single door containing that rare pattern. An odd, fascinating door," he went on, "and a bit twisted, yes – but so nice! The beginning of an unexpected cabinet. The germ of a finished piece in that little bit of colour which might so easily have been lost. You have been touched by the spark of colour," Mr K proclaimed, circling back from the practical to the personal with that trademark sensitivity to his craft that only the squarest of woodworkers dare resist. After all, as Keats – almost – said, all mysteries are spoiled by too much rule and line.

...but scarred by bubinga

Talking of rule and line, while I was at Peter's I spotted a drawing taped up behind the workbench of George Morgan, who's coming to the end of his year-long course at the



Bubinga's interlocked grain made hand planing the tapers a real chore; you can see where a custom cutter would've saved a lot of blood and sweat

school. The drawing is of his final project, a table that incorporates a 'stepped taper' in its drawer fronts, legs, and apron – a three-dimensional variation on an Art Deco sunburst almost, and an example of one of those simple-seeming details whose visual impact, particularly in combination, is very striking.

'Simple-seeming' is the operative phrase, mind: George's difficulty has been in cutting the tapers; he abandoned his early attempts to create a jig that would allow them to be cut on the spindle moulder, not least because it involved multiple jigs and at least three passes per piece to achieve the step and taper – I suppose if you were going into production you'd commission somewhere like Wealden Tools, which we met last month, to make a spindle moulder cutter to produce the stepped profile, and only need a jig to achieve the taper – but in the end George decided to do the job by hand using a batten to guide a shoulder plane.

Working by hand will always get there, they say, but the table's bubinga made a trial of every single taper: its tough, interlocking grain quickly dulls the edge on cutting tools, which need to be kept sharp to avoid tearout, and working so close to the guide took its toll on George's knuckles – die-hard hand-tool workers take note: I'm led to believe that prize fighters used to harden the skin of their knuckles with wintergreen.

You can find out more about Peter and the FCS course in the school's video, which is at www.furniturecraftschool.co.uk, and also includes that little pearwood table. See what you think: it looks pretty stable to me; I don't think it's having any difficulty coping with celebrity.

Snakes alive!

A couple of months ago (GW293), I mentioned having joined Mark Gould in Mile End where he'd organised a Wood Mizer to mill some London plane, during the course of which a few of the cuts revealed one of the timber's most attractive qualities, the lacewood formed by the medullary rays in quartersawn plane veneers with this figure in them; picking up the pack, which must've been six or seven feet long, was like handling a live snake such was the scintillation of the lacewood as the veneer bent and caught the light – movement that can't be captured in still photos, of course, but at least you can see what the figuring looks like.

These veneers came from Hythe Veneering (www.hythe-veneering.co.uk), though if you have a veneering project in mind you might also like to know about Capital Crispin Veneer (www.capitalcrispin.com), which is new to me, but comes highly recommended.



The medullary rays of quartersawn London plane produce this striking figure, or lacewood, seen here in the unfinished state...



...and here backlit to try to give an impression of the depth created by the timber's perpendicular rings and vessels

Elephants and other animals

Stephen Simmons shares the techniques he uses when restoring gods and creatures

“Do you do elephants?” takes you by surprise when you’re used to enquiries about long-case clocks and bureaux. But what’s wrong with the odd pachyderm? Animals – including human – forms in wood have a long history dating back to ancient Egyptian tombs and medieval polychrome saints. You’re not likely to get much opportunity to work on anything ancient, rare, sacred and valuable but there’s still a lot of other livestock out there. Animals provide a change from wooden furniture and can be fun as well as providing new challenges, testing your imagination and widening your range of skills.

Elephants are surprisingly common, being represented as souvenirs of 19th- and early 20th-century colonial service in India. Families of them trooped across many a British sideboard or mantelpiece. They were usually carved in a local hardwood, sometimes crudely but often with finesse – the beauties here with the realistic trunks are in ebony. There were three problems: detached ears had been screwed back on; some additional but original shellac filler was beginning to flake; and a couple of tusks were missing.

Screw dilemma

The over-large screws were locked tight and none of the standard methods of release – including further tightening before anti-clockwise easing or heating and cooling the screws – would get them to budge. If this happens, don’t be afraid to change your plans... it’s a strength not a weakness. There’s always a risk of doing more damage by applying excessive force... and there is usually an alternative approach.

Although unsightly both affected ears had been accurately re-set and from this point of view there was no actual need to get the



▲ Pic.1 Beautifully carved, but what a pity about the previous repairs



▲ Pic.2 Broken anatomical parts can pose clamping challenges, so try contact glue

screws out and start again, so it became a question of disguise. As the screws were barely countersunk I drilled their heads out a little to provide a deeper hole for Liberon vegetable black shellac filler. This sort of repair is rarely invisible on a shiny black surface like this but a bit of subsequent burnishing helped a good deal. I’d have to have done exactly the same to make good the damage done by the screw had I been able to get it out so nothing was lost by a change of tactic.

Flaky shellac

The same shellac filler was used to make good the flaking original that had been used to round some features of one of the animals (Pic.1). The use of filler was something of a design fault: filler is intended for steep-sided holes rather than shallow depressions as here. I raked more out until I reached sound and stable filler and coated the area with shellac polish before re-filling to improve adhesion. The margins of the filler could be disguised within carved folds of the animal’s body, which made blending in much easier than the work on the ears.

Absent tusks

Missing tusks are the most frequent ailment – all four of my grandmother’s elephant family had lost theirs and had the indignity of sporting matchsticks instead. The technique for replacing them is straightforward. Artificial

ivory can be a bit tricky to form but sycamore works a treat. Its grain makes it look quite realistic, and even more so once bleached, given a couple of coats of transparent French polish and burnished.

Clamping odd shapes

You met the Chinese god of crossing sweepers in *GW256*, after he'd been cleaned, but he was initially in the workshop with a broken foot (**Pic.2**). I've included him again because he is an ideal illustration of the problem of clamping odd shapes.

Always work out how best to apply sustained opposed pressure before getting the glue out. You may need to use a bit of imagination but I find that stout rubber bands and masking tape can be remarkably effective.

The general problem with animals and gods is that, unlike furniture, they have protruding anatomical parts that are susceptible to breakage and it is one of the few areas of restoration where there is a good case for using modern contact adhesives. Pieces can be held in place by hand for the necessary short time.

Rocking horse challenge

Rocking horses are possibly the most common wooden animals and their restoration demands a wide range of different techniques and materials from carving and painting to saddlery, from gesso to horsehair.

The beast here (**Pics.3** and **4**) arrived in a sorry state: dirty, no saddlery, no mane or tail and one ear missing – those protruding anatomical bits again. On the other hand, the body was sound with not a single crack between its constituent wooden blocks, the stand and rocking mechanism were intact and, mercifully, no legs were broken. It also came with a very specific brief from the clients: it wasn't to be over-restored.

Chips were acceptable

The battered stand could be fettled and repainted but under no circumstances was the body to be touched except for cleaning. The odd chip was quite acceptable.

The original was realistically hand-painted rather than gaudily stencilled and couldn't be bettered. Their only concession was to have the faded red inside the nostrils retouched.

There are two aspects worth highlighting, neither of them difficult. The first is the leatherwork. You can buy everything off the peg from rocking horse suppliers but if you're restoring a horse for your children or grandchildren you may want something a bit different, so using non-standard materials was also part of the brief here. We cut the good bits from worn pony harness and re-assembled them to measure. The saddle was a relic from my schooldays, the remains of a thick leather 50-year-old satchel.

Mane and tail

The second feature is the mane and tail. We'd



▲ Pic.3 Keep it stable: it's best to remove the horse from the rockers when working on it



▲ Pic.4 It may look unconventional but the original mane and tail were in wool rather than horsehair

assumed that they would be in the traditional horsehair but on cleaning out the hole for the tail and channel for the mane the remnants were definitely of wool. The horse had been in the clients' family from new and they were certain that it hadn't been restored before. They liked the idea of horsehair but finally went for the wool in the nearest three colours and proportions we could get to the original.

Further info

For its illustrations and general clarity I'd recommend

Restoring rocking horses

by Clive Green and Anthony Drew,
GMC Publications,
1992, ISBN 0 946819 31 9 (paperback)

Slope arms

After the precision needed for his chair's seat and back angle **Jeff Gorman** can have a bit of fun with the arms— so long as those shoulder tenons are right

While working on my design-as-you-go chair over the last few issues, I realised that although items such as seat dimensions and the angle of the back had been decided by the physiques of the intended users, with elbows being bendy things, I had some scope in fixing the slope of the arms. The templet and a temporary seat helped me to physically explore the possibilities until I decided that I liked this somewhat exaggerated angle (**Pic.1**) that gave it a bit of a sprightly character.

Drilling the arms

Having completed the arm, I've been occupied in forming shouldered tenons on the tops of the legs and drilling correctly angled sockets. The ever-useful 'angle block' established that the arms are inclined at 8° to the horizontal. Its magnetic base was very handy while setting the drill table to the same slope. Anticipating that the drill's downwards force would tend to shift the job downhill, I took the precaution of cramping the job down (**Pic.2**). Please note that the arm's 'elbow end' faces to the right.

To offer a firm seating to the leg tenon's shoulders, I needed to counterbore the under surface, but at the start of the operation I could not exactly know where to insert the centre of the flat bit (**Pic.3**). I solved this by first drilling a 13mm blind hole almost through the top of the arm and followed right through the workpiece with a 3mm drill registered in the drill spur's dimple. After turning the job over



Tip

When gauging the tenon shoulder use a gauge with a point sharpened to act as a cutting gauge. See *GW202:19* for more.

◀ **Pic. 1** A steel band clamp temporarily holds the post & rail chair together while Jeff experiments with the arm's slope



▲ **Pic. 2** Here Jeff is preparing to start with a blind hole for the leg's tenon



▲ **Pic. 3** You have to be super-careful when trimming the counterbore

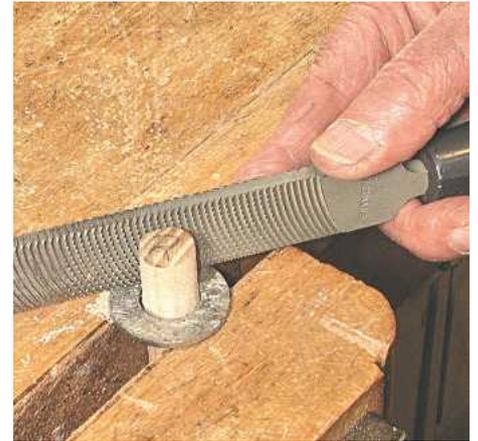
Shoulder tenons



▲ Pic. 4 Using the marking gauge, scribe the tenon shoulder



▲ Pic. 5 Saw a very shallow kerf to form the shoulder line



▲ Pic. 6 The washer protects the shoulder face while the file does its job



▲ Pic. 7 You need to check the filing with a Vernier calliper gauge



▲ Pic. 8 Jeff drives a leather punch to form a perfectly round tenon



▲ Pic. 9 When tuning the tenon's fit, Jeff avoided scraping its tip

and moving its elbow end to the left, I used the 3mm exit hole to centre the flat bit and cut the shallow counterbore. To complete the hole I finished with the 13mm drill.

Drilling a blind hole

To set the drill's depth stop I've previously touched the drill's point on a gauge block seated on the table (GW199), but since this won't work on an inclined surface I had to use a less positive procedure. Firstly I fitted the drill in the chuck and put some clean-surfaced packing under the job.

Next, I raised the drill table until the drill's point was a short distance from the work surface. After setting the dial to zero, I lowered the drill until it touched the surface and noted the reading (inset on Pic.2). Next, I added the intended hole depth to this reading, thus working out the length of the drill's intended travel. Finally, I turned the dial to register this value against the index line and firmly locked it in place. This set the limit for the drill's movement.

Filing the tenon

In my view, working long and slender pieces on a lathe is a job for a more expert turner than me so I formed the legs and rails using rotary planes and tapered them with a trapping plane. If I owned a lathe, turning a tenon on

the end of the legs would have been a doddle, but I rather enjoyed the challenge of doing the job by hand.

I first gauged the shoulder (Pic.4) and gingerly sawed a very shallow kerf while supporting the job with a V block on the sawing board (Pic.5). With the leg in the vice, I used an old metalworker's trick of slipping a washer over the leg's stem to bring its surface slightly above the shoulder line (Pic.6). Although I usually find the dreadnought file a valued part of my kit, I soon learned that it ripped the wood too fiercely so swapped it for a metalworker's bastard file. Since I intended that the end of the tenon should show on the surface of the arm, I needed an accurately round tenon to make an immaculate fit.

After wondering how I was going to get this, I had an Eureka! moment and discovered that I had a leather punch of just the right diameter (Pic.8). Not daring to experiment on the actual job, I first tried the idea on a trial leg and was delighted to see that it worked. During the trial I learnt to file so as to produce a slightly tapering tenon whose top eventually could only just fit inside the punch. I think I was successful because, thinking it risky to expect too much of the punch, I frequently checked with the calliper gauge (Pic.7) and gently filed most of the surface to within half a millimetre

of the final diameter.

Although I was glad to find I'd made the tenons a squeaky-tight fit, I knew from experience that to twist a slender dowel-like piece in a very tight hole is to ask for a split workpiece. Believing that the file would remove too much wood, I tuned the fit by lightly scraping the tenon with my penknife (Pic.9). I'm now looking forward to trying out an idea for a couple of small decorative details before polishing, gluing up, and then weaving the seat.

Jargon busting

Blind hole: One that does not pass right through a workpiece.

Information

You can find out about the antecedents of this chair at <http://www.amgron.clra.net/projects/Chairs/TomSuttonChair.htm>. You can source an adjustable Steel Band Cramp at Tilgear – www.tilgear.net

Next month

Jeff's slender spindles call for a trapping plane

WIN!

Competition

Tool chest, tools *and* a course with David Savage

Worth over £3000



Could you be classed as Britain's most deserving young woodworker? If so you could be in with a chance to win an amazing tool chest, a full set of hand tools and a week's Basics Course at Rowden



Many young people want to make but can't get going for lack of tools and knowledge. In recognition of this, leading course provider and designer-maker David Savage is hoping to find one such young person and give her or him a flying start. The lucky winner will be set up for life thanks to the prize of a beautiful tool chest to be made by famed American maker Chris Schwarz who is working with students at a 2-week summer school at David's workshops at Rowden, Devon from 24 August to 4 September. Chris is donating the tool chest that he will be constructing and David has committed to gathering together a tool box with a full kit of tools. In addition the winner will be put up for a week during a One Week Basics Course at Rowden worth £750. The course covers sharpening and use of hand tools.

As David says: "Sharpening is an important gateway towards you gaining control of the cutting edge. At the end of the week, most, if not all, your tools will be sharp and you'll know how to use them. Bench planes and chisels are called hand tools for a reason, so how you and your body interact with them is especially important for getting the most out of them. We will teach you how to hold them correctly and the proper stance for bench work. We use bench planes for flattening timber, and here you will learn how to work a truly flat surface, plane an adjacent flat surface at right angles, and create a dimensioned component, all with these basic tools. Respond to the material, to this bit of wood. We will teach you to cut it the way it wants to be cut and you'll understand why that is essential."

That's why *Good Woodworking* is offering David the space to promote this exciting competition to give an aspiring young woodworker the chance to begin a challenging furniture-making career.

HOW TO ENTER

Entrants must be under 25 years by the competition closure date of 18 November 2015. All you have to do is write up to 250 words setting out why you would benefit from the prize, including a note of any prior experience. David is looking for someone with a passion for making. You or someone applying on your behalf will need to show that passion with photos and drawings. The aim is to put this box of tools in the hands of someone who needs them and will use them with care and pride. The winner will be chosen jointly by David Savage and by *GW's* Editor, Andrea Hargreaves.

Tool chest competition GW0815

Good Woodworking
MyTimeMedia Ltd
PO Box 269
Haslingden
Rossendale
Lancashire BB4 0DJ

The person judged most to benefit from the prize will receive the tool chest, toolbox and course

The closing date for entries is 18 November 2015

Only one entry per person; multiple entries will be discarded. Employees of MyTimeMedia Ltd and David Savage are not eligible to enter this competition.

Please attach the coupon below to your entry:

Name.....

Date of birth.....

Address.....

.....

..... Postcode.....

Daytime telephone.....

Mobile.....

Email address.....

Please ensure your personal details are correct as they will be used to contact you if you win.

By supplying your email/address/telephone number, you agree to receive communications from MyTimeMedia Ltd and other carefully selected third parties.

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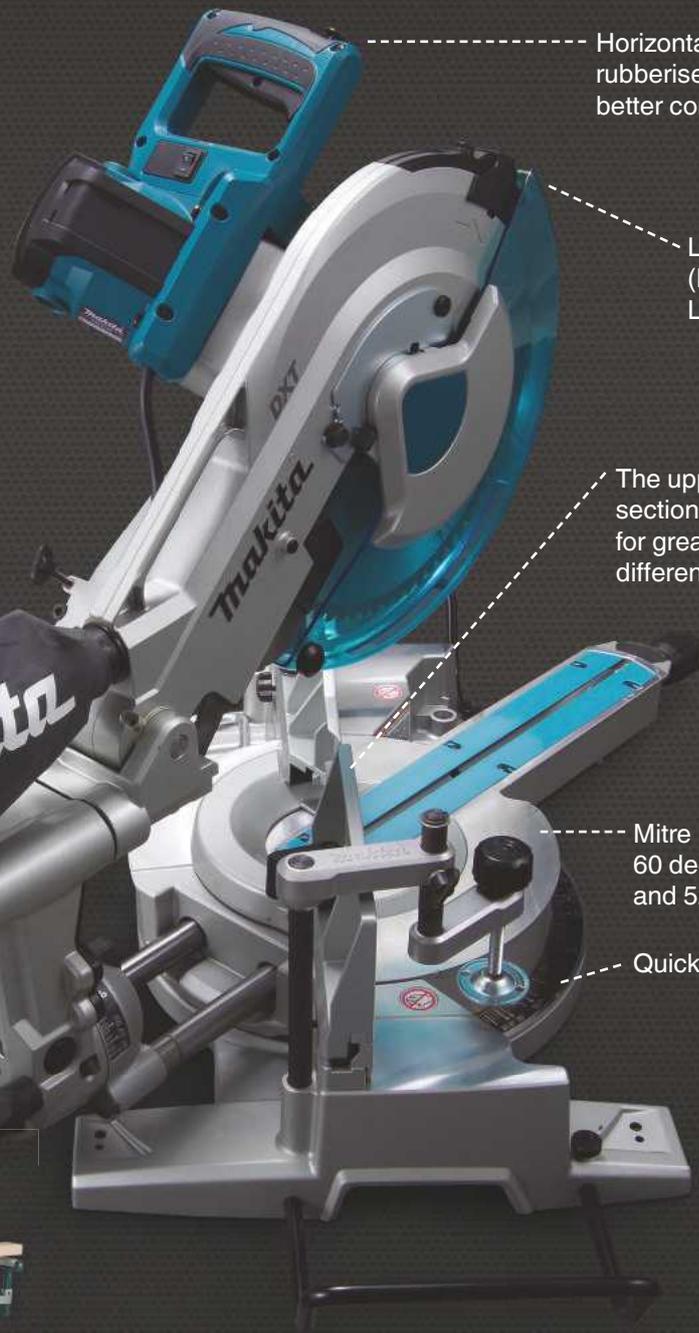
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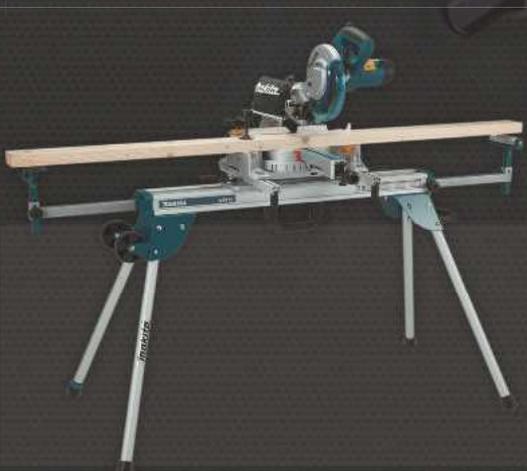
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Tails in hiding

This month **Michael Huntley** advances your dovetail know-how so you can cut the laps that hide the tails, and makes a drawer



◀ Pic.1 An old lapped dovetail pinboard (aka drawer front) with planted-on lipping. Notice how the groove for the drawer bottom comes out in a tail so that it is not seen. Notice also the half pins at the outside edges

Last month we looked at simple dovetails of the type found in early or roughly made furniture. The principle of dovetails is that the piece of timber bearing the load has a tapering shape on it that cannot be pulled through the narrow gap in the other attached piece of timber. The big advantage of a dovetail is that it doesn't need to be cramped while the glue is drying and that it has mechanical strength.

Better dovetails have more than one tail and don't show through on both timbers. These are called lapped dovetails and are the kind



▲ Pic.2 Set up the pinboard in a vice to the same height as a plane on its side

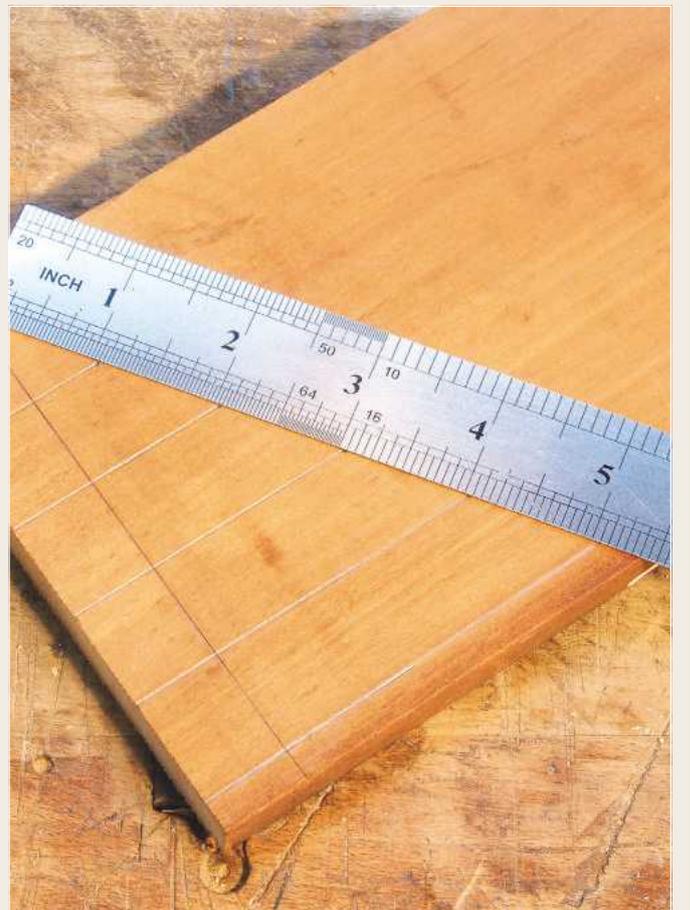


▲ Pic.3 This shows the amount of set-back that the tailboard has in order to create the lap



▲ Pic5 The tails marked out and the waste marked with an X

Setting out



▲ Pic.4 Dividing the space inside the 6mm half-pins into five equal divisions. This ruler method will work for any number of divisions

The full instructions for mathematical setting out are in Joyce or Cosman but don't get too hung up on the maths – yet!

Here is an easy method. Mark a line on each side of the tailboard 6mm in from the edges. This will be the outer tip of the outside tails. On the basis that the tails will be about 10mm wide at the tops, make a guess at how many you can fit in across the width. Let us say you can fit five tails in. Use a ruler to divide the available space into five equal strips (**Pic.4**), and then set out the tails using a dovetail gauge or a sliding bevel. Beginners should start with a slope of 1:6 for the tails. Don't make the pins too small in an effort to make exotic dovetails! Get the hang of things first before finessing.

Woodwork foundations



▲ Pic.6 Cutting the tails with the board angled so that the saw line is vertical



▲ Pic.7 Marking the saw cuts onto the pinboard in the old-fashioned way



▲ Pic.8 Cutting the lapped pins



▲ Pic.9 Cleaning back to the shoulder line of the tails with a vertical cut

that are usually found on drawers. The pin board is cut with a 'lap' left in place, which hides the ends of the tails (**Pic.1**). As these are the most commonly found dovetails today, these are what we will be making this time. There are many other versions of dovetails but when you can cut the lapped sort cleanly you will be able to work out the rest from books.

When constructing a drawer the sides are usually thinner than the front. Prepare side and front timbers true and square. Make them the same height, unless you are thinking of adding a lipping or having the drawer fronts overhanging the carcass rails, see Joyce's *The Technique of Furniture Making* for details of this.

Planning dovetails

Once all the timber is prepared you need to plan the dovetails. Try and copy the spacing from a good-quality drawer. There are several methods for setting out the spacing, but it is easier to begin with if you just copy an existing spacing if you have one. Note that the top and bottom pins will be 'half-pins' (**Pic.1** again).

As I said last month, it is easier to start with the tails. Set up the pinboard in the vice alongside a plane on edge (**Pic.2**). Place the tailboard on the plane and bring it up to the pinboard. Set it back from the front edge of the pinboard by 5mm (**Pic.3**). That 5mm will be the lap, so the end of the tailboard will also be

extended backwards by 5mm. You need to take account of this when setting out the depth of the drawer, but be aware that it is good practice to have the drawers a little short anyway.

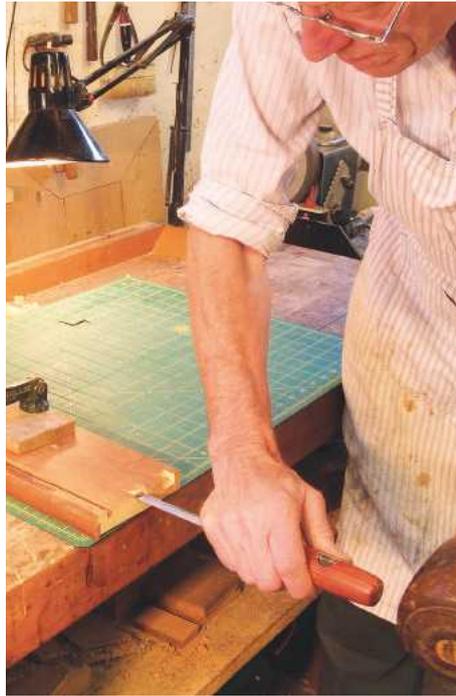
Cutting joint

Mark out the tails (**Pic.5**) and cut them (**Pic.6**). Notice that it is easier to slant the board such that the marks are all vertical and cut all of one side first, then slant the board the other way and cut the other side of the tails.

Before you clean up the waste in the sockets, set the pinboard in a vice with the tailboard propped up on a plane. Align everything perfectly and use your saw to mark through the



▲ Pic.10 Cleaning the lapped sockets going down first...



▲ Pic.11 ...and then coming in horizontally



▲ Pic.12 Cleaning into the corners: you will need both a right- and a left-handed skew

tail saw cuts onto the pinboard (Pic.7). This is a speedy way of doing the marking, but if you are more comfortable cleaning up the tailboard waste first and using a knife, continue to do what you are happy with. Try each method and see which you prefer. Make sure you pencil mark the waste clearly so that you don't clean up the wrong bit! Remember which side of the saw mark to cut – always cut in the waste with the edge of the saw just touching the line.

Now cut across the bottom of the waste with a piercing or coping saw. A piercing saw will allow you to use the longer part of a broken blade, but a coping saw is adequate. Chop out the waste in the same way we did last month. If you want to pare back to the line, do so across the grain (Pic.9), not down the grain from the 'top' of the pins – there is a much larger chance of splitting out if you pare down the grain.

On the pinboard, saw across as far as the lap and go down the inside face only. When sawing you can only saw at an angle and must stop at the lap (Pic.8). Once the saw cuts are in place you can start to chop out the waste. The method is to chop down once (Pic.10), and then chop horizontally once (Pic.11). Do this for all apertures. You may need a dovetail skew chisel to get into the far corners (Pic.12). Once clean the joint can then be assembled (Pic.13).

Resources

Ernest Joyce: *The Technique of Furniture Making*, Batsford, 1987

Rob Cosman: *Hand-cut Dovetails*, American Craftsman Publications, 2008

NEXT MONTH

Michael shows you how to make rule joints for drop-flap tables

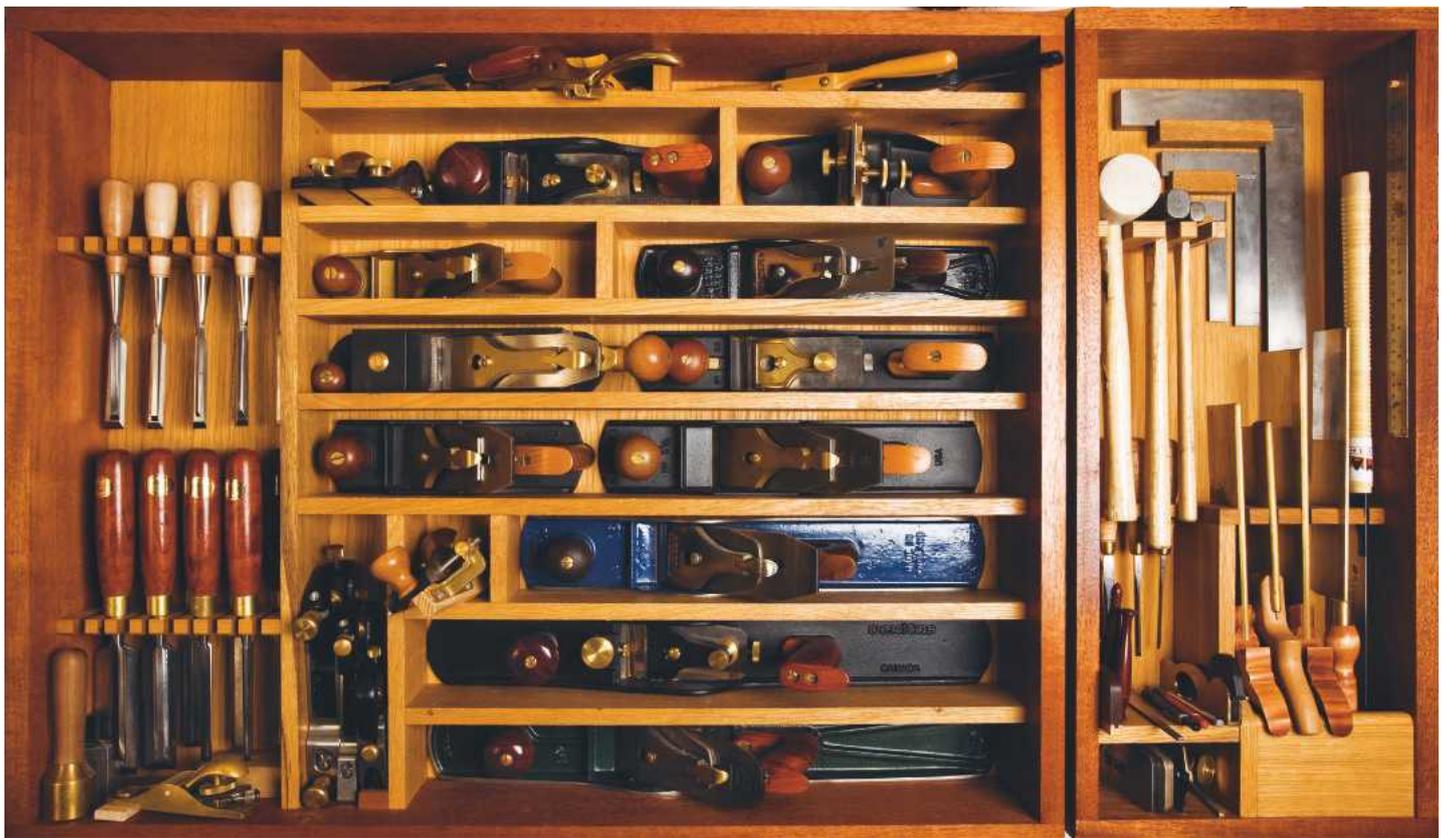
Rest of the drawer

When setting out at the beginning, don't forget that the drawer will need a base that runs in a groove in the drawer sides. This groove should be sufficiently high above the bottom of the side to avoid breaking into the half pin. You can see the groove in Pic.11. It ends in the tail and therefore cannot be seen from the outside.

Cut the joints on the other corners and slide the base into the groove in the sides. The base should hold the whole assembly square. The base actually passes underneath the backboard – which is less high than the sides – and is held in place by small screws in slots. This allows for shrinkage movement. On your first drawer you can try it all together to check everything fits, but in a trade workshop you do not fit dovetails before gluing up. You apply the glue and slide them together then offer up the baseboard and screw it in. Then you set the whole lot aside without any cramps and make a start on the next drawer. Indeed you may even have cut the second set of dovetails in a batch at the same time as the ones for the first drawer! Batch production rules!



▲ Pic.13 The finished front-to-side drawer joint



Everything in its place

Fed up with tripping over the tools you've accumulated over the years? Then put together **Tony Sutton's** tidy solutions

I'm sure that most woodworkers build up their collection of tools over a number of years, and find homes for new additions along the way. In the last 10 years, however, I found that my own collection was expanding more rapidly than my storage facilities, with the result that I was storing planes on shelves and in drawers, and hanging saws on nails hammered into walls. In the end, I decided that enough was enough: it was time to stem the tide and build a tool cabinet.

Now, I'd hazard a guess that all woodworkers make at least one toolbox during their lives, and over the years the tool storage solutions that they've devised have ranged from simple

shelving to elaborate pieces like Henry Studley's famous tool chest. Studley was a piano maker in 19th-century Massachusetts, and made his stunning chest – which is now on display in the Smithsonian Institute in Washington – from ebony, mother-of-pearl, ivory, rosewood, and mahogany. While most of us will settle for rather less ornamentation, every tool cabinet worth its name needs to provide useful accommodation.

Spatial awareness

The final design will obviously be dictated by, among other things, the number, size and type of your tools, the space limitations of the



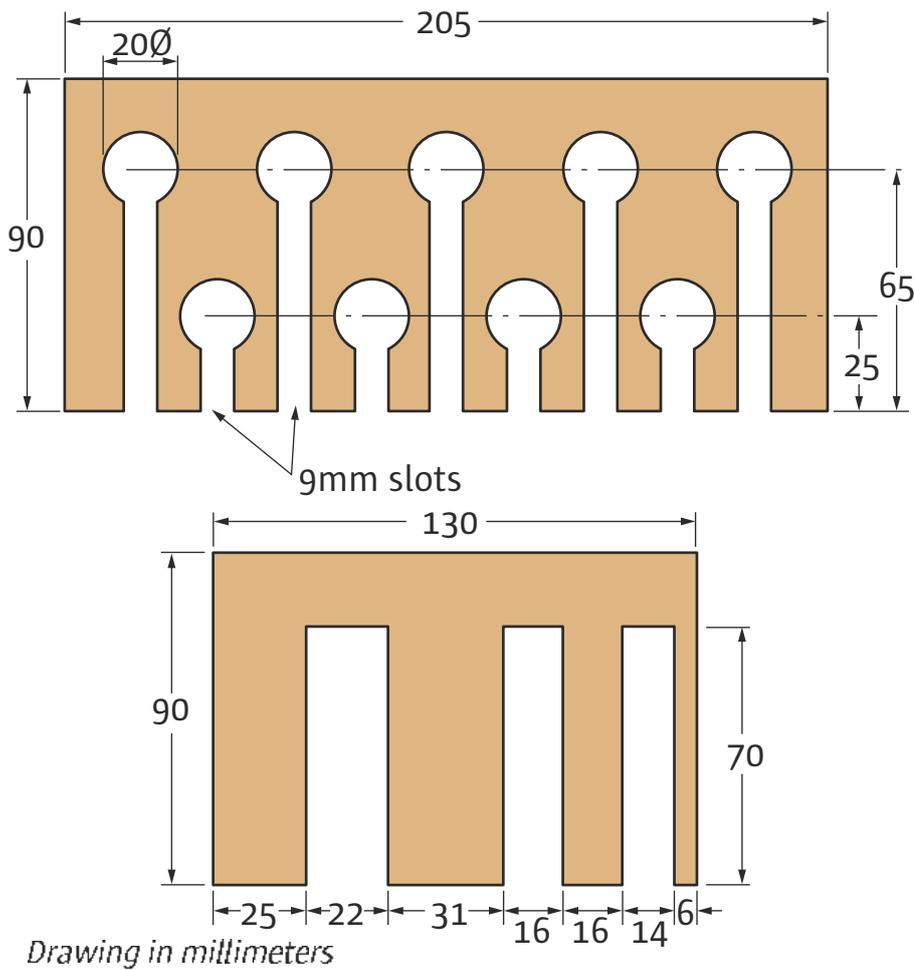
Chisel do nicely: a place for everything, and everything in its place

workshop, and the ease of access to the tools you use most often. The look of the thing might also be important – especially if prospective clients will be seeing it!

In my own case, the biggest influence on the design was the limited space in my workshop. I own quite a few hand planes and chisels, as well as a collection of handsaws, marking out tools and hammers. Portability wasn't an issue because all my woodworking is done in my workshop, so I settled on a straightforward wall-mounted cabinet.

Initially, I thought it'd be ideal to have a cabinet with doors, the rear of which could provide extra storage. On reflection, though, I

Fig.1 Cut-outs for chisels and saws



thought that the doors – which would require room to open – would be more of a hindrance than a help, and in all likelihood they'd never be closed anyway!

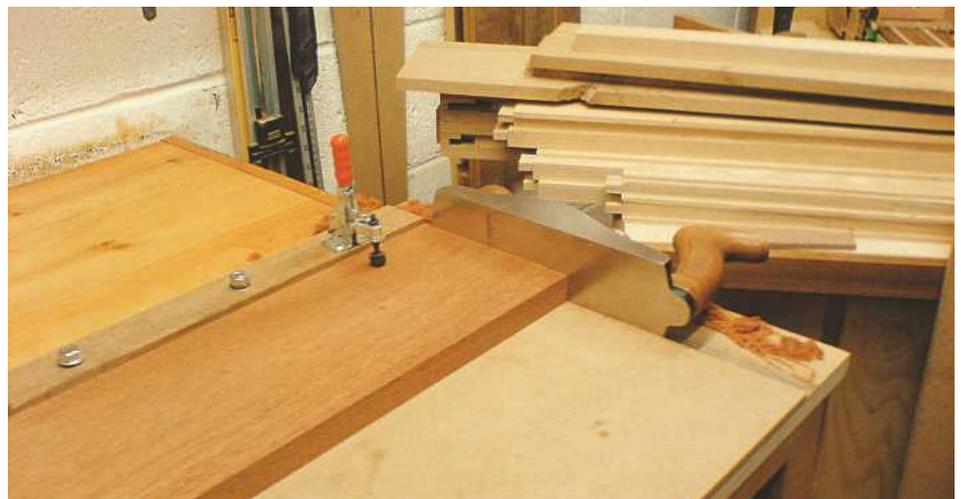
Having decided on an open cabinet, then, the emphasis was on ease of access for tools and some flexibility to allow for buying and selling tools in the future. Finally, I needed to decide on materials – an easy choice as it turned out, having recently come into possession of some old mahogany and oak. Recycling the wood for my tool cabinet made perfect sense to me, not least because the two species look lovely together.

Setting out

Once I had a firm idea of the cabinet's maximum sizes, I established the positions of the tools by laying them out on the back board which, in the interests of keeping the cabinet rigid and strong enough to hold a dozen or so planes, I'd decided to make from a sheet of 19mm oak-veneered MDF.

Rather than draft up a detailed set of drawings, I worked from my original sketches and let the positions of the tools on the MDF sheet determine the locations and sizes of the dividers and shelves. This kind of approach can work better for some furniture and storage

solutions than a more formalised approach – and in either case, I find that the final item rarely reflects the initial drawing because design is a reflective and iterative process. For instance, while I was experimenting with different arrangements of the tools, I decided to make two separate cabinets, one for the planes and chisels, and one for the saws and marking tools, which would also hold my hammers and mallet. I then placed offcuts of



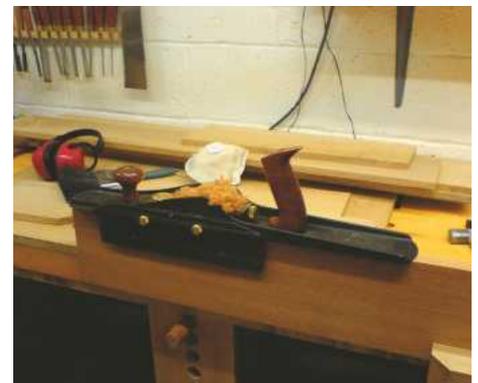
▲ Pic.4 With all stock prepared, cut the pieces to length and accurately finish on a shooting board



▲ Pic.1 Letting the positions of the tools dictate the locations of dividers and shelves is easier than making detailed drawings



▲ Pic.2 The light circular saw, along with a clamp guide, is ideal for ripping the MDF to size



▲ Pic.3 After a pass through the planer/thicknesser, the edges and faces were finished with a jointer

The big project

wood of the same thickness as the final shelves and dividers between the tools in order to establish the overall size of the cabinet. I marked out the positions of all dividers on the MDF, taking care to ensure that everything was exactly square. I repeated this process for the second cabinet, and then I was ready to start cutting.

Preparing the stock

To cut the MDF to size, I used a circular saw and clamp-guide rather than a table saw. A sheet of 19mm MDF is too heavy to manhandle across a table, while a circular saw is nice and light!

Given the technology available to us, I don't see much point in taking rough-sawn stock to finished dimensions using only hand tools, so I thickened the mahogany and oak to rough sizes on my cheap but useful planer/thicknesser, and then hand planed them to final dimensions using my jointer.

With the material accurately sized and the edges squared, I ran a smoothing plane over the pieces to ensure a uniform surface on which to mark out the dovetails for the cabinet sides, and to avoid the need for any sanding on the shelves and dividers. Unfortunately, the veneered MDF did require sanding in the end, but you can't have everything!

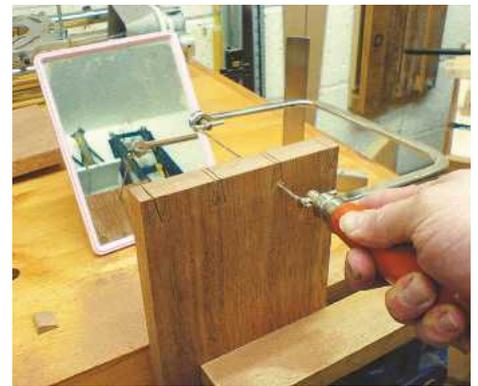
The lengths of the individual components were taken directly from the MDF back-piece, and roughly cut to size before being planed on the shooting board to produce exactly perpendicular ends and precise lengths.



▲ Pic.5 Scribe around the boards to mark out the baselines for a set of dovetails



▲ Pic.6 Planing a shallow rebate in the pin board makes it easier to align the boards later



▲ Pic.7 Remove most of the waste for the dovetails with a coping saw and sharp chisel...



▲ Pic.8 ...after which you can use the tail board as a template when marking out the pins...



▲ Pic.9 ...so that you make a really close-fitting set of dovetails



▲ Pic.10 Clean out the corners of the stopped rebates and the pin joints



Construction: jointing

I made the larger cabinet first, and started by scribing a nice deep baseline for a set of through dovetails in the cabinet sides before planing a very shallow rebate in the tail boards (I use an engineer's square to guide the plane) to make it easier to align the boards when marking out for pins.

The tails can be marked out using a sliding bevel or dovetail marking gauge, and then cut down the line using a dovetail saw. The majority of the waste can be removed with a coping saw, and the rest with a sharp chisel, which will register into those deep baselines. The pins were then marked out using the tail board as a template. The pins are cut in the same way as the tails, taking care to cut on the inside of the scribed lines.

A stopped rebate was routed into the back of the cabinet sides to take the MDF back, and the sides of the cabinet were then

glued up and checked for square.

Once dry, I squared up the round corners of the rebate left by the router's circular cutter using a bullnose plane and chisels. Finally, I planed away the protruding wood from the pin and tail ends.

“The final item rarely reflects the initial design exactly – design is a reflective and iterative process”

The dividers

A dry assembly allowed me to mark out all the intersections of dividers and shelves for the biscuit joints. When cutting the biscuit slots in the faces of the side and shelf pieces, I found it a good idea to clamp a square to the work to ensure that the slots were exactly perpendicular to the sides of the pieces.

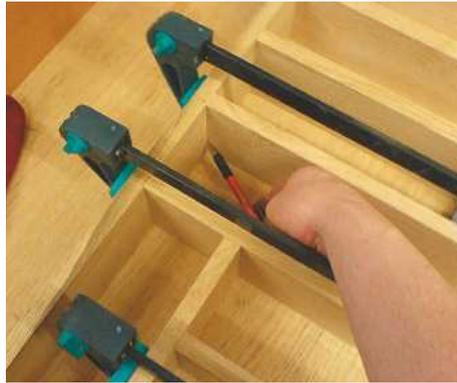
For the ends of the shelves and dividers, the biscuit jointer was registered against a flat surface and the slot was cut in the centre of the end grain. The workpiece was then moved across the face of the biscuit jointer and a second cut made to form an elongated slot; this is to allow the shelves and dividers to be fitted in once the main pieces are glued in place. More importantly, perhaps, this also ensures it can easily be removed – no glue is used – allowing some margin for adaptation as your tool collection changes.

The MDF back panel was then removed,

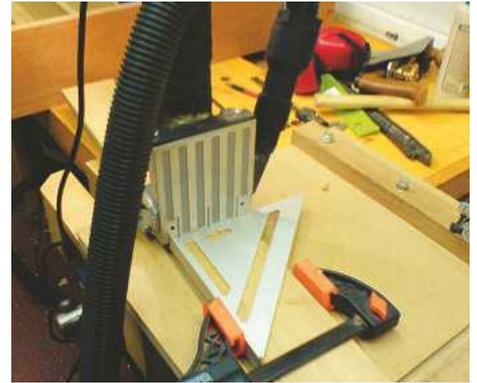
The big project



▲ Pic.11 A dry run is essential for this project, but you'll need quite a few clamps!



▲ Pic.12 Mark out all intersections ready for the biscuit slots to be cut



▲ Pic.13 Use a square to register the biscuit joiner when cutting the slots in the faces...



▲ Pic.14 ...so that the slots are exactly perpendicular to the sides



▲ Pic.15 Cut long slots using the biscuit joiner for the dividers and shelves to be slotted into



▲ Pic.16 Remove the MDF rear panel so you can drill and pre-finish it



▲ Pic.17 You can then pre-finish the dividers, ready for final assembly



▲ Pic.18 The completed plane and chisel cabinet. Note the cut-outs for storing chisels



▲ Pic.19 Cut the French cleats on a table saw, then clean them up before cutting to length

holes were drilled for the screws that will hold the dividers in place – the combination of elongated biscuit slots and screws allows for easy repositioning of the shelves and dividers, so that again, you can accommodate any future changes – before the back and dividers were pre-finished.

Once the finish was dry, I glued the back into place. Now, I almost never use mechanical fixings in my projects, as I prefer to rely on the joinery and modern glues for strength. On this occasion however, the weight of all those planes on the cabinet gave me pause for thought, and I elected to use a few nails to ensure that it will have more than sufficient strength when hanging on the walls.

Before final assembly, I marked out and drilled holes in the chisel dividers to match the ferrules of the tools; the slots that allow the

blades to pass through can be cut with a bandsaw or a hand saw.

Final assembly

After gluing the biscuits for the long vertical divider into place, the divider itself was mounted onto the base. The other dividers and shelves followed, and were secured using only screws through the back piece and biscuits pushed into the slots. I decided to mount the completed plane cabinet before gluing up the smaller saw cabinet, so the next stage was to cut a strip of mahogany to make the French cleats that I planned to use to mount the cabinet on the wall. Essentially, the French cleat setup consists of two battens, one fitted on the wall, the other on the cabinet. The upper face of the wall batten and the lower face of the cabinet batten are cut at 45° so

that they interlock and positively hold the cabinet in place. What's more, the locking action of the cleats becomes more secure as you add more weight.

After cleaning up the French cleats using a hand plane, I cut them to length and screwed the first squarely to the wall using 100mm screws and rawl plugs – this cabinet isn't going anywhere! The second cleat was attached to the rear of the cabinet using shorter screws and plenty of wood glue to ensure that it's not the weak point in the system. Once the glue was dry, the cabinet was simply lifted onto the wall and the interlocking faces of the cleats engaged.

The saw cabinet

Encouraged by the success of the cleats on the first cabinet, I pushed ahead with the saw cabinet, which was assembled in much the

Tool cabinets



▲ Pic.20 Attach one of the cleats to the wall, ensuring that it's level



▲ Pic.21 Once the other cleat has been attached, lift the cabinet onto the wall



▲ Pic.22 Hey presto! The plane cabinet is finished – all that's left is...



▲ Pic.23 ...to finish the saw cabinet, which is awaiting the French cleats



▲ Pic.24 With the cupboards up and tools stowed, there's more space in the workshop

same way as the plane cabinet except that all the joints were glued because I don't plan to alter it. Otherwise, the second cabinet differed from the main one only in details, the front piece of the saw storage area being rounded over on its top edge to allow saw handles to be hooked over for easy removal. The engineer's squares, meanwhile, are held by pieces of oak cut from a length with a rebate cut along the back face, before being cut into three and attached to the back piece.

As expected, the cabinets have had loads of use since being finished! Dust has not been a problem, mainly because I rarely sand, and the occasional pass with the 'shop vac' soon has them pristine again. The design of the cabinet has been flexible enough to cope with changes in my tool collection, including some Blue Spruce dovetail chisels which I housed in a new section behind the hammer handles.

Porthole project

When a uPVC window company fought shy of replacing a round window **Charlie Bailey** bravely stepped in

This project started when I got a phone call from a neighbour. He had just had all his windows replaced with UPVC; that is, all except one. A round window, 2ft in diameter had been forgotten. It was in pretty poor condition, well beyond repair, and the window company weren't keen to make it, so I got the job.

Construction

There are many ways to make round windows. The one I removed consisted of two wooden rings, one with a smaller internal diameter to accommodate the glazing; these were just nailed together. They can also be made from four identical quadrants with a mortise in one end and a tenon in the other; these are then glued together to make the circle. I have previously made some particularly awkward shaped and odd frames by building them up in small thinner sections. By ensuring the grain follows the pattern as much as possible, and by staggering the joints, a very strong, stable frame can be produced. This also allows the use of all the short offcuts which build up over time – the sort you keep, knowing they will come in handy one day.

This window is 75mm thick so with the timber available, three layers 25mm thick were ideal. It makes the frame more stable if all the layers are the same thickness or mirrored around a central core (**Fig.1**). Without a jig it is very difficult to make a perfectly round frame;



A distinctive circular window provides an interesting challenge for the woodworker

however, by making the frame over-size then trimming with a router and trammel bar the frame can be made perfectly round.

I used polyurethane glue for the frame and glazing bead. It has the advantage that it is fast setting, but the other big advantage with this construction is that there are a lot of end-grain to end-grain joints and polyurethane

glue makes a much stronger end-grain joint than the more traditional wood adhesives. PVA glue not only shrinks as it dries but is also drawn down the grain of the joint by capillary action, starving the joint of glue and making it weak. Polyurethane is not only initially more viscous, but it expands as it cures, pushing the glue down the grain. A further advantage is that it fills any voids in the timber. Although polyurethane glue has no real strength if it is more than a couple of millimetres thick, it does prevent water ingress into the joint.

Step by step

Use a piece of 6mm MDF as a template and mark the centre. Draw two circles for the inner and outer diameter of the frame.

The first layer can now be laid out – all the timber needs to be exactly the same thickness and the butt joints need to be a good fit, but as long as the circle is covered the overall shape is not important. Glue is applied to the joints and cramped to avoid the glue pushing the pieces apart as it expands when curing; don't use pins as it would be difficult to avoid hitting them during final shaping. Clean off any glue residue and re-draw the two circles.

Build up a second layer, staggering the joints, again ensuring the circle is covered. Apply the glue and use a spatula to spread a thin continuous layer so that there are no voids, then cramp up.

Clean up the top face and draw the two circles again. Remove the MDF template and, with a bandsaw or jigsaw, cut just outside the outer circle. Use a jigsaw to remove most of the waste from inside the inner circle.

For the third layer, use the frame as a template to mark out the pieces, making them slightly oversize. Glue and clamp the final layer, again staggering the joints.

Temporarily glue the frame to a board – I used a hot-melt glue gun, but double-sided tape would work. Using scraps from each layer, build up a centre section to the same height as the frame. Mark the exact centre and drill a hole (8mm). The drill bit will act as the centre pin.

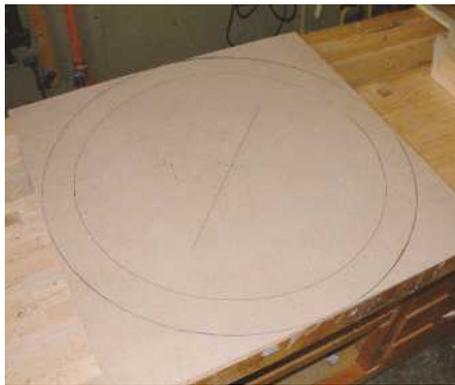
Before trying to cut anything, run the router round the inside edge of the frame with the machine off to ensure that it is centred in the frame.

Using a 50mm-long cutter, gradually remove the waste until you have a smooth circle. Do the same for the outside of the frame. Use a rounding-over bit to round over the inside edge of the frame.

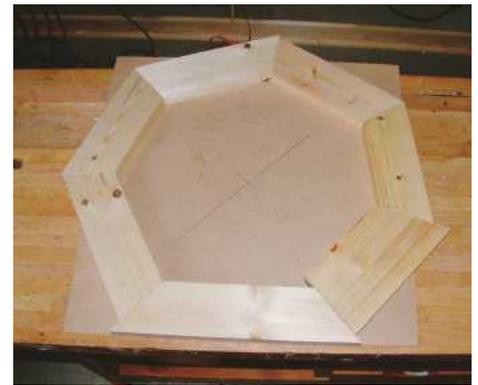
Mark the position of the frame on the board before removing the frame from the mounting board. Re-mount the frame on the board the other way up, being careful that it is centred in exactly the same position as previously. Finish cutting the outside face of the frame then cut out the rebate for the glass on the inside edge. Separate from the mounting board. Because of the various grain directions of the frame sections, it's probable that some breakout will have occurred; fill any marks with a 2-part filler and sand smooth.

I made the glazing bead from oak strips all about 2mm thick and just flexible enough to shape without breaking. Although it would be very easy to end up with the bead glued in position, I decided to make the bead in the frame to ensure it was a perfect fit. If care is taken there should be no problems.

Start by making the bead wider than you



▲ Pic.1 Using a piece of MDF as a template, draw both inner and outer diameters of the window



▲ Pic.2 Mitre each segment and lay them on the template, covering the outer circle



▲ Pic.3 Glue the segments together. When dry, clean up the surface and redraw both circles



▲ Pic.4 Repeat with a second layer, making sure vertical joints are staggered, and glue up

need, then cut it down to size. Cut one length of oak strip to fit exactly the internal circumference of the glazing rebate and fit it in position. Cut another strip to fit inside the first, apply glue sparingly but thoroughly and fit it in position with the joints 180° apart. Cramp up. Subsequent layers are built up until the bead is the same thickness as the depth of the rebate.

Push the bead slightly out of the frame and make sure it fits squarely in the frame. Mark all round with a pencil, remove the bead and cut along the line, making sure it's reasonably smooth. Fit the bead back in the frame, leaving enough room for the glazing (Fig.2). Mark the side of the bead and cut along this line.

Now fit the bead in the frame. It should be a

good friction fit. Align the top edge and run a router around the bead to give the desired moulding and to aid water run-off.

I gave the window and bead two liberal coats of wood preservative and used a knotting solution. then primed and undercoated ready for fitting.

To fit this window, I first had to remove all the rendering around the window, and then use frame fixing foam to secure it. The double-glazed unit was bedded in glazing silicon and the gap around the double-glazed unit was filled with more silicon before fitting the bead which I held in place with four brass pins. Finally, everything was given two coats of gloss, inside and out.

Passing building control

There are exceptions to the usual rules and regs, particularly with listed buildings where discretion may be applied. Advice should be sought from your local council's Building Control Officer, who will issue a certificate when the window is satisfactorily installed to show that it complies with Building Regulations; this may make your life a lot easier if you ever come to sell the house. Charges for this will vary according to the local authority area in which you live.

The huge number of regulations

concerning replacing windows is constantly being updated. For the latest go to www.planningportal.gov.uk, but as a general rule be aware of the need for adequate rapid ventilation, safety glazing, window guards where necessary, adequate means of escape and adequate thermal performance with suitable glass, usually double-glazed unless the building is listed. Also be aware that some requirements can conflict with others. Yes, it's a minefield, so make a friend of your Building Control Officer.



▲ Pic.5 With a jigsaw cut around the outside, leaving some waste. Repeat for the inner circle



▲ Pic.6 Cut and mitre oversized segments for the final layer, using the frame as a base



▲ Pic.7 Apply glue to all surfaces and cramp the third layer to the frame. Clean up when dry



▲ Pic.8 With the frame attached to a board, build up offcuts until level and determine the centre



▲ Pic.9 Screw a piece of wood to the router fence and drill an 8mm hole, the trammel centre



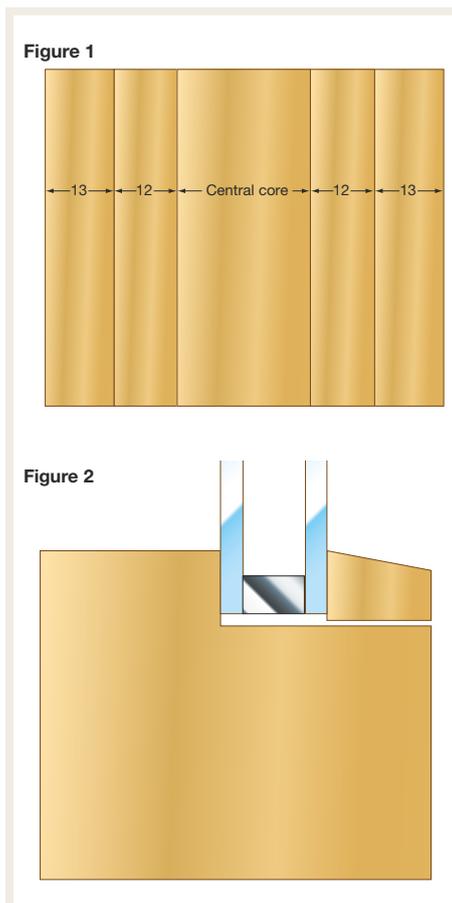
▲ Pic.10 Trim the inner and outer circumferences gradually with a long straight router bit



▲ Pic.11 Mark the frame position, remove and mount upside down. Rout the rebate for the glass



▲ Pic.12 Glazing strips are laminated from 2mm thick oak strips, glued together inside the frame



▲ Pic.13 Cut the beading to width with a jigsaw, cleaning up the surfaces with a block plane



▲ Pic.14 Check the fit of the beading in the frame, then add a profile with a rounding over bit

Make your own trammels

It's possible to buy trammel bars for many routers but I don't have one and adapted the router's fence instead. I screwed a piece of timber to the fence so that it aligned with the base of the router and drilled an 8mm hole. I fitted this to the guide bars in the opposite way to normal. The fence on the DeWalt 625 has a micro adjuster and this is useable in this configuration, making the trammel bar micro adjustable.

Whatever your project there is a Scheppach plunge saw to meet your demands.



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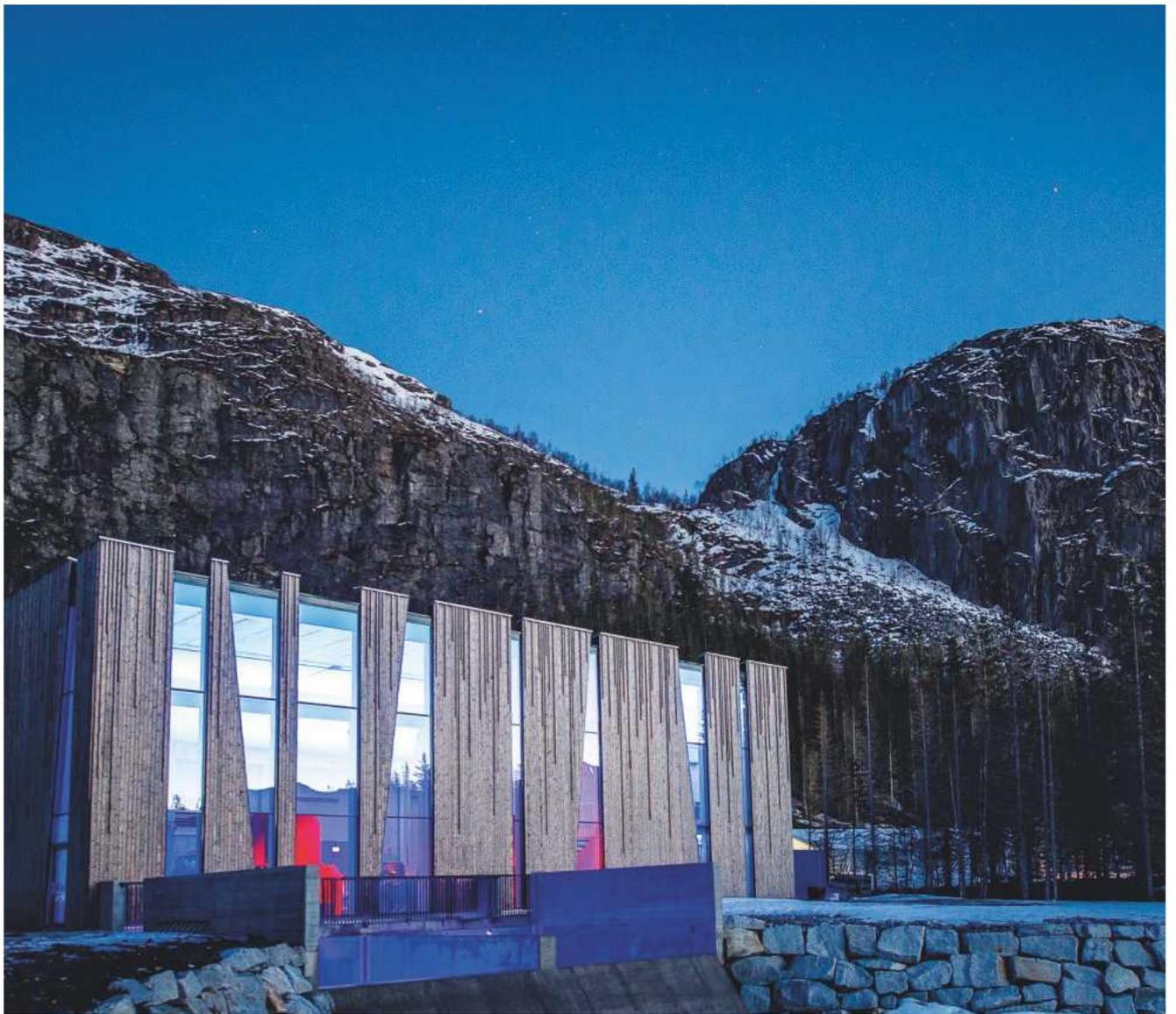
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Øvre Forsland power station, Norway

Kebony-clad, stone, slate and glass

“The plant has been designed to reflect the characteristics of the landscape, which is located on the river bed in a clearing at the edge of a spruce forest. The main inspiration for the design was the verticality and the irregularity of the spruce trees. The Kebony wood will acquire a grey patina gradually over time as it interacts with the elements. The durability and low-maintenance of the wood lends itself to remote locations.”

Robin Söderkvist,
Stein Hamre arkitektkontor

“Choosing a natural material is important in reducing the impact on the visual environment and Kebony wood provides the strength and durability of tropical wood without causing environmental degradation. It adds another layer of ecological credentials for the 1600 homes which will benefit from the renewable power.”

Adrian Pye,
Kebony



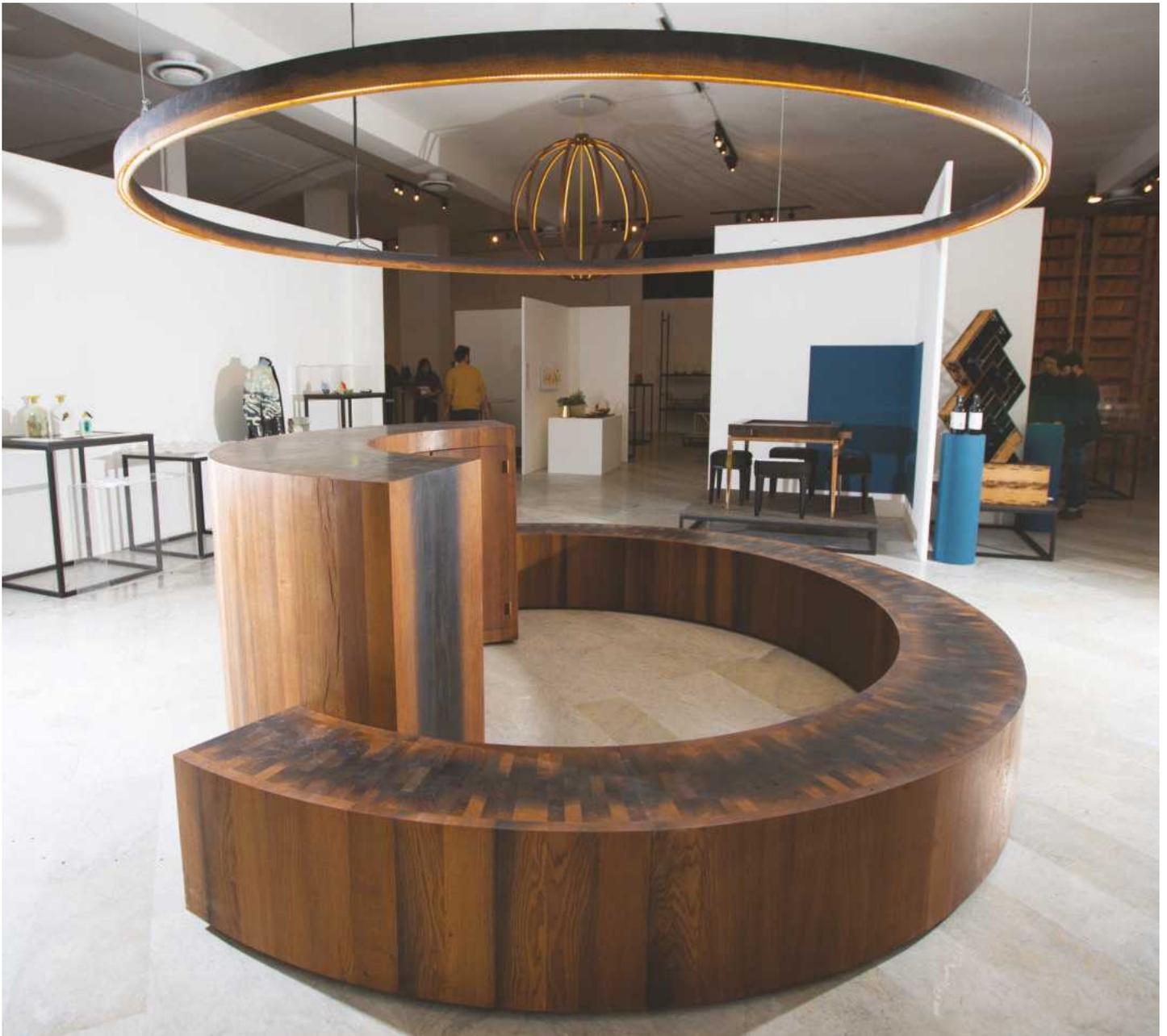
Power plant design

Norway, a country that generates more than 80% of its electricity from hydropower, has added to its renewable repertoire in the guise of a Kebony-clad 30GWh plant situated deep within the mountains of Helgeland, a hiker's paradise just below the Arctic Circle. The region is known for its unique coastline and spectacular mountain formations, and the architects wanted the plant's design to be inspired by and reflect the landscape, while also functioning as an attraction for hikers in the back country wilderness.

The Øvre Forsland power station has been designed to educate hikers about power production by allowing visitors to experience hydraulic electricity manufacture at various points throughout the process. From the nearby bridge, the powerful water flow that drives the turbines can be seen emerging from the station and the heart of the plant, and the inner workings are exposed through an opening, which reveals the light design of the interior, inspired by the Northern Lights.

A main inspiration for the design was the

verticality and the irregularity of the spruce trees. Along with extensive use of stone, slate and glass on the exterior of the building, Kebony wood is used in the building's cladding. Kebony is a Norwegian wood, produced using sustainably sourced softwood species, which are impregnated with a non-chemical bio-based product and heated under pressure, resulting in a highly durable and maintenance-free product that diverts demand away from endangered tropical forests.



The making of Neolithic

A team of makers had just 3½ weeks to craft a bar from ancient bog oak for the Wallpaper* Handmade exhibition in Milan

It was the perfect partnership: old whisky, a bar crafted from ancient petrified wood, daring style from a top architect and construction by a crack team of problem-solving makers.

Inspired by the lineage of Royal Salute whisky, Sally Mackereth created the design for a bar to be made from ancient petrified wood sourced from the Croatian riverbed, and Jack Badger interpreted the drawings.

The tree trunks were trapped on the riverbed and deprived of oxygen, then covered with layers of mud, sand and gravel between 1,000 and 8,000 years ago. Minerals in the decomposed wood reacted with water and the tree tannins to produce a unique colour and patina.

Jack Badger Ltd, a team of highly skilled craftsmen who have worked together for over 25 years creating beautiful products that last

several generations, constructed the bar. After Milan, it will be showcased worldwide at Royal Salute polo events.

Ben Naylor, MD of Jack Badger, said: "It's been a bit of a whirlwind over the last few months. We went to Croatia to pick out the timber for the project, spent an intense 3½ weeks building the bar and went to see it in all its glory in Milan, where hundreds of influential people in the design and interior

Bog oak bar



Each board is carefully surveyed to ensure maximum yield



The suspended lighting hoop is laminated in sections. Note groove for lead string



Assembling the custom-sloped frame which will convert the Wadkin thickener into a wedge-nesser



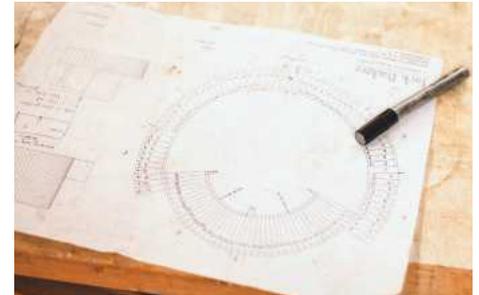
The prepared boards are glued up to create the desired appearance in the end-grain top surfaces



Cleaning up one of the hollow cupboard sections; the timber frame is just for temporary support



Jack Badger leads the way in preparing the frame sections and keeps a careful eye on quality control



One of the working drawings for the bar; absolutely nothing has been left to chance



The machined frame segments stack up, fresh from the modified thickener



Pre-assembly checks ensure that all will be fine when it comes to the final glue-up

Wow of a commission



Once created, the curved sections are uniformly cleaned up with an ingenious pendulum router cradle



It's unlikely that Jack and his lads would make this lift look so easy if the sections were solid instead of hollow



Putting the pieces together in a dry-run installation – fingers crossed the reality matches the drawing



Cleaning up the front faces of the bar cupboard doors with a careful spokeshave



The first coat of oil really shows the depth of the beauty of this sunken oaken treasure



The team finally have it all loaded up and ready for travel to Milano

world saw it too.

"The design of Neolithic is outstanding – the intricate nature of it really shows off the beautiful tones and patterns in the fossilised wood, some of which is over 8,000-years-old. Such a precise design did pose challenges for us at Jack Badger though, as we only work using traditional techniques and tools.

"The circular shape of the bar was created with 106 segments. Each segment had to be made to a 3.6° angle and we were working within a quarter of a millimetre in terms of accuracy. We had to be innovative in the

solutions we came up with to build the bar, which involved us creating a hand-operated mechanism, based on the basic idea of a swing, to create a perfect arc.

"Working with Sally Mackereth and Royal Salute on this project has been a huge career highlight for us. It's been a lot of hard work, but the sense of achievement is amazing."

Sally Mackereth said: "The age of the oak is up to 8,000 years, which coincides with the late Neolithic period. It is understood that the first wheel was invented around this time and crudely hewn out of basic discs of timber; no

metal was available of course. Our similarly pure use of ancient timber and the circular shape of the bar we have created echoes this early form, and the subtle colour gradation around the perimeter charts a lineage of time passing over thousands of years."

If you or your company has completed a stunning commission we'd love to share them with readers so please email sample images and text to: andrea.hargreaves@mytimemedia.com

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NEW cordless drills



A10M • A18M - Drill Drivers
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Bethany Hughes' desk features lavish use of leather

In safe hands



Some of the furniture on Brighton Uni's stand, including Sophie-Jane Mualed's multi-cultural chair, front right

On the hottest July day ever London sweltered as the graduates of summer 2015 warmed up to showcase their work at New Designers. **Andrea Hargreaves** reports

Outside the Business Design Centre in Islington you could have fried the proverbial egg on the elegant paving. Inside it was hardly cooler, surely due to the mass body warmth of a hotbed of nascent talent rather than the lack of effective air con.

However, the cool demeanor of these young graduates as they broke away from chatting with their contemporaries to eagerly talk visitors through their pieces, the culmination in most

cases of three years' hard graft at the design table and in the workshop, was in contrast to my discomfort, and to their great credit.

For while this was not, like last year's standout show, overall a wildly exciting effort – some interesting pieces excepted – the work showed that design in is safe hands.

I think what I missed most was the celebration of solid timber and veneers that used to be the hallmark of the former Rycotewood and Bucks stands. Now absorbed



Lewes Scott Wilson's iPad desk

Will Elworthy's leather-seated and turned leg chair



Lucia Greco with her reclaimed elm cabinet. In the background, bearing green tickets, can be seen Christopher's Gee's 001 table and Hannah Woollard's shelving unit



And the prizes went to...

Juwon Seo of Bucks Uni won the John Lewis prize for her Work Nest, about which the judges said: "Juwon demonstrated a sensitive and considered approach in all of her design work. Her desk addressed home working for all ages with a thoughtful use of materials, playful familiarity and beautiful detailing.

Jacob Underwood, also of Bucks, won the BCFA award for his Fiero stacking chair, about which the judges said it is a "good contemporary interpretation of traditional Ercol values for modern living. We were impressed by the consideration given to every detail."

Mu Hau Kao of Camberwell College of Arts received the 100% Design award for a ply stool and the citation that it "stood out as an example of determination to succeed against the advice of manufacturers. By experiment and commitment a simple, practical and commercially primed product emerged."



Juwon Seo's playful desk



Jacob Underwood's stacking chair

Samantha Walpole's skeletal tables



Partisan table by Luke Sinclair



into Bucks New Uni, the furniture-making course has only another year to run. Instead, ply ruled supreme everywhere, and it wasn't always jointed or finished well, which was a pity and spoke of rushed work. Cynical old me can't help thinking that not only is ply cheaper for college use, but it doesn't require so many woodworking skills, having no grain direction to worry about so allowing for simpler jointing. I can only hope that proper jointing on proper wood is still being taught.

Chairs as artform?

I was also rather taken aback to take an interest in a couple of seats, only to be told they weren't for sitting on...

OK, grumbles over. Furniture store John Lewis had just distributed its coveted John Lewis Loves... tickets on pieces that the buyers felt had commercial potential, like Christopher Gee's 001 diner, because, according to the citation, this is a 'simple table with beautifully executed details through making and material choices', and fellow Nottingham Trent student Hannah Woollard's flatpack bureau. "In my head I was actually designing for John Lewis," she told me. But my favourite on this interesting stand was Lucia Greco's sideboard in reclaimed elm.

"I wanted to make a reclaimed high-end piece," she said. "I wanted to use reclaimed timber in a commercially viable way. This piece had really waney edges and the frame is in Scottish oak. Initially the wood dictated the design so I did it as a frame & panel. It was a challenge as the boards were warped and twisted."

Earlier I said that much of the work was safe, and while I feel students should take advantage of their youth by being adventurous, it is good that this year's crop are

One Year On



Richard Staples in his busy workshop



... and he can do a nice chair too



Sideboard by Richard Staples has an updated mid-century feel

The One Year On show attached to the main event usually provides some exciting surprises. Take Richard Staples. Trading as Lydiates – the name of his grandfather's farm – he went to Hereford College of Technology before setting up his own workshop and working to commission. Enough to be going on with you might think, but Richard set to and made not just one exhibition piece but a whole range of oak, walnut and leather furniture, which I believe is begging to be taken up by a mass market buyer.

And what else did I really have my acquisitive eye on? Charlotte Brocklehurst's hand-blown glass and timber dry-food containers, that's what. Trading as Brocklehurst Furniture, Charlotte's pieces would sparkle in sun coming through a kitchen window



A glowing-lidded bowl by Charlotte Brocklehurst



Flatpack school creative unit by Kate Caven

astute enough to design in the main for your John Lewis type of buyer. So hats off to the University of Brighton, which showed some quirky pieces. I particularly liked Sophie Jane Moualed's chair, designed to reflect her French, British and Algerian stock, with a Windsor back, marquetry and French 18th-century legs capped in copper as a 21st-century take on old bronze mounts.

I took it all back regarding ply when I reached the Building Crafts College stand. As always this was an outstanding display of very saleable solid timber pieces, this year given a lightness and sense of space. But where were the students to explain their lovely pieces? Manning the stand with principal tutor Colin Eden-Eadon was a lone Will Elworthy, a comparatively mature student at 30, whose ash and leather chair with turned legs I admired. Unusually for a furniture maker he is into woodturning. "I'm very much in the functional camp," he said. "I love cylindrical objects intersecting with square. I love turning bowls. When your head is full of numbers [when making furniture], to get on a lathe is very therapeutic."

Mixed media use

At Northumbria Uni's stand I loved Lewis Scott Wilson's OakTec desk, designed to take iPads etc, and his aluminium and oak desk tidies. "I like doing things that are unusual but luxury with a twist. With the desk I was going to do all wood, but put a twist on it with metal legs." In fact there were quite a lot of metal legs on furniture, giving the pieces a lightness and pleasing contrast.

Several students mixed media with great effect, particularly in the use of leather, and



Table with unusual woven shelf, by Building Crafts College's Daniel McPhail

my favourite piece in the whole show had to be Plymouth Uni's Bethany Hughes' desk, with its dump pouches for casual use – no finicky pigeon holes here. "The project celebrates 'mindful living' through craft, skill and the essence of the making. By exposing innovative jointing it highlights craftsmanship which adds personality, and increases the personal bond to owning a design which leads to longer ownership." Quite so.

Fellow graduate Samantha Walpole used skills learnt as a former panel beater to make her metal-legged tables. "I use multiple welding techniques in order to create geometric structures as it fits in with my skills that I have previously built up." The skeleton frame revealed the beauty of the structure. She applies powder-coated colour to the frames. Samantha could relax as she already has a job, working for David Buss at Bridger & Buss, near Exeter.

There was more mixed media with Daniel Stebbens' (York St John Uni) 2-drawer chest on legs, on which he worked on with Vitra, mixing fabrics to create a range of modular units on powder-coated steel legs that unscrew for

packing. He included protective felt on the interior and on the back.

Back to Bucks and the work of Luke Sinclair deserved its front row position for its ingenious construction. This fold-down circular table seats eight when fully extended, or can be used as a desk, with a woven-seated chair whose back rail tucks into the curve of the table. The table is extended via extruded rails and slots into place lazy Susan fashion. He modestly described it as a working prototype but it looked nearly ready to go to me, and had a couple of class rule joints.

THE GOOD WOOD BEST AWARDS

Best stand: Building Crafts College, London

Best piece: Desk, Bethany Hughes

Best idea: Folding, extendable table, Luke Sinclair

Best marketing: Roy Tam, Plymouth Uni



Stool by Archie Hands (Building Crafts College)

Hydrogen-powered sandwich



Aston's eco car was the only all-wood vehicle in the competition

All those rude things I've been saying about the use of ply over solid timber... well, um, I take it all back, in praise of Aston Uni's hydrogen-powered 3-seater car. Each year the Birmingham university takes part in a competition held in Rotterdam for energy-efficient cars.

Daniel Saggs – "in charge of the front end" – said they chose a ply body to keep the weight down while having a strong structure, and using sustainable recyclables.

"The plywood was cut and sawn to shape. Two layers were PVA-glued together, then a layer of balsa in strips to fit corners and structure, then another two layers of plywood, in a sandwich. The side pieces have a slot for the chassis. It's the best car we've ever had. It completed six miles of the course and was the only fully wooden vehicle there."

For creative kids

I also liked Sheffield Institute of Arts' degree show winner Manon McAvoy's winged chair in birch, with the arm and back rests reflecting their curves so the ply shells appear to be one continuous supporting line.

And I loved Kate Caven's (Edinburgh Napier Uni) desk structure for creative kids. To research this one Kate talked to children at school and asked them and their teachers what they wanted. While her initial market is schools, it would scale down to bedroom size easily. "I did [the design] on Illustrator, then CAD for CNC on sheets of ply, laminating it first to make it more durable. The kids chose the green and orange."

It will be interesting to see where the obvious talent of the class of 2015 takes them, and it is encouraging to note that for the most part these young designer-makers have their eye keenly on the commercial ball. But I would have liked to see it bit more daring escapism... Who will we see in One Year On, see panel, next year?



One of the reconstructed period houses at this living museum sets the scene

Back to the woods



Mike Gordon at the pole lathe

Andrea Hargreaves discovers ancient crafts at the Weald & Downland Wood Fair

There's something very special about the Weald & Downland Museum at Singleton, near Chichester. Approach it from the road that goes past Goodwood and you are driving through an area which promises pleasures to be enjoyed by the money-ed kind: the Festival of Speed celebrating super-fast sports cars, vintage and modern, the Goodwood Revival, a carnival of costumed fun and concours d'elegance, polo ponies and horse racing. Then breast the Glorious Goodwood hill and gently coast down the other side, turn in, drive down a rutted track, park in a field... and leave your 21st-century vehicle behind as you enter a working village of reconstructed period houses dating from the earliest peasant hovel through to medieval hall houses and other historic timber-built homes, set in a working woodland.

Ancient crafts

There's always something going on at this museum, but the Wood Fair attracted many enthusiasts who love nothing more than demonstrating their ancient crafts. Heavy horses were dragging hefty tree trunks, charcoal burners were at work, wheel rims were being forged and everywhere wood was being fashioned into functional items by pole-lathe turners and carvers.

Prominent among them were members of the Association of Pole-Lathe Turners and Greenwood Workers from Kent and Sussex. Mike Gordon and Fionn Turnbull were sat at shave horse and lathe making dibbers, spurtles, bag handles, rolling pins, candle holders and cup & ball games while Londoner Jon Warwicker, the organisation's chairman, was carving bowls from greenwood using only an adze. "I've got a plumb bob and a water level. That's all I need," he said. "People spend stupid amounts of money on power lathes and

Weald & Downland Museum Wood Fair



Jon Warwicker works on sumac which, he says, retains its bright green colour



James Pumfrey turns bowls at speed using only this tool he fashioned from an old spring



Wheelwrights thump a metal rim onto a wooden hub under fire, cooling with water from a can



Timber was the mainstay of life

tools. I try to make mine. I made these adzes because I couldn't buy one."

Bodgers Ball

James Pumfrey was also using only homemade tools, made from recycled car springs. Showing me a hooked gouge, he said: "The tip is really sharp at 25°. It's completely different from power turning. I can make whole bowls with that tool and can make a 7 or 8in bowl in half an hour." Not surprising coming from the quickest bowl maker in the UK, who holds the Bodgers Ball bowl-turning record. James makes direct copies of historical bowls, including those on the Mary Rose, and replica artefacts for the Jorvik Centre in York. "The only difference from the original is the colour and the personalisation marks." He got into green woodwork as a result of a course he took at the newly opened Gridshell building in 2005.

Opposite him, Claudine Cecil, a potter, was making hurdles from hazel. "I've only been with the group for about a year. I just like making things," she said. In the Gridshell carvers were demonstrating and I was very taken with the large-scale sculpting being done by Sarah Cridley, so watch this space...



Sarah Cridley at work on one of her powerful sculptures

Wood fair diary

Wood fairs are taking place all over the UK during the summer and autumn. Here are a few:

New Forest & Hampshire show
29-31 July
www.newforestshow.co.uk

South Downs Show & Hampshire Woodfair,
15-16 August
www.southdownsshow.co.uk

Treefest at Westonbirt Arboretum
29-31 August
Gloucestershire
www.forestry.gov.uk

Stock Gaylard Oak Fair
29-30 August
Dorset
www.stockgaylard.com

National Forest Woodfair
31 August
Leicestershire
www.nationalforest.org

Wychwood Forest Fair
6 September
Oxfordshire
www.wychwoodproject.org

Confor Woodland Show
10-11 September
Wiltshire
www.confor.org.uk

European Woodworking Show
12-13 September
Essex
www.europeanwoodworkingshow.eu

Bentley Weald 20th Anniversary Woodfair
18-20 September
East Sussex
www.bentley.org.uk/events

Surrey Hills Woodfair
3-4 October
www.surreyhills.org

Cranborne Chase Woodfair
3-4 October
Hampshire
www.woodfair.org

Belmont Woodfest
10-11 October
Kent
www.belmont-house.org/events

Peebles Wood Market
24-25 October
www.forest-festival.com/wood-market



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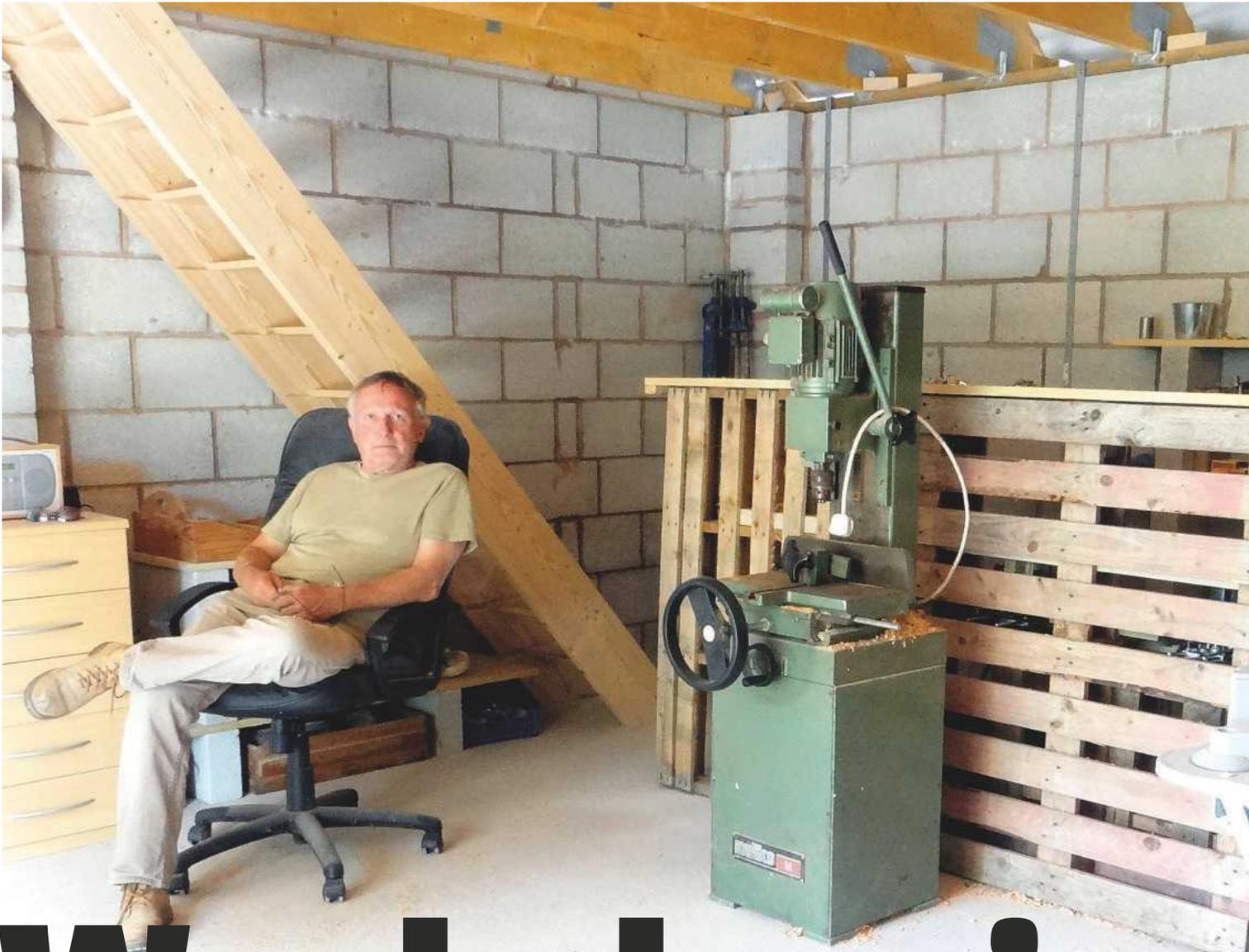
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Workshop's put to work

After many months **Edward Hopkins** has a workshop. But he had no time to sit back and admire his handywork as the orders started coming in

I have a workshop! It isn't finished and it isn't fully stocked, but it is a viable workshop. It has one thing that I've never had before: space. It looks as though it has light, but that's the camera lying. As yet it has just one 13amp extension lead running over from the house. It has a radio, a comfy chair and yes, it has a bar!

James and Katie married recently and held a mini festival in a field by a mill. They had a beer tent 4m square. James asked if I would help him build a bar. I thought he'd have enough to do, so I did it myself. I had a stack of pallets



Tool storage is a major concern in a workshop. Edward had told himself that here he would have all his tools out of sight in cupboards and upstairs. The new workshop would be clinically clean, vacuumed in minutes. Wrong. That streak of idealism didn't last five minutes. But he did know that a small chest of drawers works quite well for papers, spanners, things with two handles like pliers, pincers, tin snips, pop riveter, mortiser bits and pieces and so on. The chest of drawers here might look just a bit posh for a workshop and indeed, it is as good as new, but he picked it up at the recycling centre for £5 and all it needed was a wipe



Behind the bar: on the left, barely visible, is a shelf unit made of odd lengths of planking held up by dry concrete blocks. It took me about 15 minutes to put together. At a whim, the shelf unit and bar could be disassembled and the components returned to their respective stock piles, leaving not one screw hole in the wall as evidence of them ever having been there. It won't happen before then. The shelves won't tumble down of their own accord. I wouldn't build a unit like this in a nursery or in an old people's home. It wouldn't tick the boxes of the over-cautious, but then again, it doesn't have to

Edward had hoped to have a grand workshop opening with machines regimented and gleaming, but half of them still weren't there, and now there was no waiting because the phone rang. It was James wanting to make a garden door and would Ed help him? He brought along a load of larch – ex 2in and ex 1in, planed all round. It was a good choice of timber, being heavy and strong, but mainly, as he works in a yard that uses little else, it was cheap. Against that, it had many dead knots which he is going to have to fill and sand. And, although this stuff was well seasoned, larch has a propensity to twist as it dries. Ed had proposed a slimmer door with three 1in rails, and 1in vertical planks set between the stiles. When he saw the winding of the 2in stuff, he knew that a 1in rail could never constrain it. In a moment Ed's first idea was jettisoned and they went for a thicker door: a simple 2in frame clad with 1in boards





Edward's half-inch router lives under the table, usually holding a 45° chamfer bit. Big chamfers, small chamfers, they get everywhere and this makes them so easy. They used a fat square bit to cut the cheeks of the tongues. For indoor work Ed often fits loose tongues but for an outside door, albeit one to be sealed and painted, he reckons solid tongues are much better. There is less surface area that might attract and hold moisture. He put the chamfer bit back in and on two separate settings cut the V section that delineates the planks. Apart from looking good in its own right, the V in TG&V creates a shadow that distracts the eye from any line that might open up between the boards as the weather takes its toll

Edward bought this Sears Craftsman Radial Arm Saw when he was James's age. With little else he made a Welsh dresser, even including the coving. To cove, he slung the motor askew half way to ripping mode, locked it in position, and slid the square timber beneath it, lowering the saw a fraction after each pass. It took ages. It filled the air with dust and shriek. It was not the safest operation, but he was careful and didn't come anywhere near to grief. The saw obliged, but he knew it wasn't really happy. It was even less happy with ripping. He had to do a fair amount of this and the machine coped well if he took it easy but it was, he thinks, the reason for the first motor burning out. Later, needing to work on site, he bought a beautiful Metabo K303 chop saw, and, having a table saw by then, the radial arm became redundant. It is, however, a very versatile tool. When he seemed to be furnishing the village with pine window shutters, he realised that by slinging the saw face down – spinning horizontally – and set within an appropriate jig, he could slice the cheeks of tenons with withering accuracy and speed. The Book would say that this was dangerous too. It wasn't. Here James is cutting cheeks slice by slice. It's a long, dusty and noisy way to do it, but all they had. Ed passed the tenons over the router table to skim off the worst of the ripples



The parts of the door most vulnerable to rain are the tops of the rails where water might sit and seep into the joints. To preempt this they sloped them. With no machine interested in doing this, they reverted to a jack plane



including some floor tile pallets – half the size and with an upstand along one side. And I had some lengths of 8 x 1in tanalised softwood left over from the doors. Add to that a clutch of large cable ties – wonderful things, cable ties – a dozen bolts, a few screws, a very enjoyable four hours, and tadah! I was really chuffed. The bar looked good and, on my concrete floor, was rock solid. You may not call this woodwork, but you can't deny that it is furniture making.

I made a few marks on the components to make sure I could reassemble the bar, but not too many because the construction was so obvious and inevitable. Ha! Three weeks later

and in the field, I unpacked my van. "This one goes here. That one goes there. The bolts slip through these holes. Um. What holes? Where have the holes gone?" Aargh! It can't be that difficult? But it took a seeming age and Frannie to put on her deerstalker hat before we puzzled it out.

And so my workshop has at long last slipped into existence. We didn't have time for a fanfare. Not even a bottle of cider was dashed across its prow and no speeches were made. Frannie didn't wear a hat. All of that – except the fanfare, the speeches and the hat – will come later when my three almost mythical-by-now machines take up residence. They will be

as inert as exhibits until the electrician has visited, and he can't come until I've put a roof on the extension toilet/kitchenette. I can't do that with the scaffolding there, and I need the scaffolding to finish tiling the main roof. That's not sensible until I've fitted a bit more chimney flue – I underestimated by six inches. I ordered a piece but they sent the wrong size. Then they sent the right size to the wrong place. While I was waiting, I started something else entirely. A log shed. A big log shed. It's going well and I'm quite excited. I like making big things.

We're going to let Edward concentrate on his log shed for a while and hope he will be reporting on its progress in a few months.



Cramping up was tinged with anxiety. These joints were so big and snug that if they'd dry fitted them, they'd have struggled to get them apart again. They had a minor struggle to get them together but large sash cramps can exert tons of pressure. Just the right amount of glue exuded from the joints on the final twist, and this was wiped away immediately with a damp kitchen cloth. Nothing, but nothing is going to separate these joints, and that is very satisfying. James intends to fit six dome-headed bolts through the joints, not just as belt & steel braces, but as a signal to the passer-by that this door is not to be messed with



To trim the top of the door, Ed was ready with a hand saw – and a square to make sure he kept it true – but James whipped out this rail saw. He tested it by making the cut on the left which, although it didn't reach all the way through the 2in stile, was clean and accurate. Ed thought that the rail needed clamping to the workpiece, but was proved wrong. The pointed top – a small concession to decoration – leaves end grain exposed. Back in Bristol, James will fit two capping pieces, mitred in the middle and overhanging all round to act as a rain hat



A weekend's work for Edward and James. This included cutting the mortise and the inset for the lock. Having done some of these by hand on hung doors, Ed knows that a mortiser makes the job about a hundred times easier and, in his case, ten times better. It was even worth swapping the mortiser back to a pillar drill to cut the holes for the shaft and the key. They used a hand-held router for the hinge rebates. James has found some rather splendid 100mm stainless steel ball-bearing hinges. Peculiarly, they came with some feeble little 1in screws. He took away with him some larger stainless screws left over from Imogen's coffee table



Happy couple James and Katie

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Email: andrea.hargreaves@mytimemedia.com

Talking the torque

I am only just getting into my woodworking and have not yet managed to climb the dizzy heights of all the best tools. However, I have found a passion for Ryobi kit and I have been impressed with nearly all of the 18V One Plus range of tools. In particular I think their impact driver is a stunningly good bit of kit and for only £60ish it's incredibly good value.

I was reading about the 100 years of Makita (GW293) and I noticed that their new impact driver was flaunting 175Nm of torque, making it the most powerful 18V impact driver.

So armed with this knowledge I was keen to see how far behind the most powerful impact driver my £60 Ryobi dream machine was. Well, shock horror, it wasn't 10Nm behind the Makita or even 20Nm, no in fact the Ryobi was quite a long way off the Makita. There was some 45Nm of difference! Now that's a lot of torques! However what was even more surprising was that while the Ryobi has a difference of 45Nm, the difference is actually that the Ryobi has more torques not less! That's right: the Ryobi is 220Nm compared with the 175Nm of the most powerful 18V impact driver.

So maybe that's why I love my £60 Ryobi. I think I might buy another one before they realise how good they are and stick the price up.

Stuart Morgan, by email

My guess is that Makita is basing this on 'professional' machines as Ryobi's are classed as DIY or hobby end tools even by its own marketing. It's certainly an impressive figure though; the model in question



Stuart at his Ryobi-assisted beautifully made desk

(RID1801M) is well over double the torque of all the original impact drivers from any manufacturer when they first came to market, and those were revolutionary in how powerful they were! Interestingly, Makita's model that hits 175Nm is its new brushless DTD148 3-speed model, but the DTS141 Oil Pulse model, again brushless, is only 40Nm according to its own website, which sounds very low; most combi drills beat that figure so I'm guessing it may be a mistake on its webpage.

Coincidentally, you'll like this issue, Stuart, because Phil Davy, p76, is full of the exciting One Plus kit that is being launched very soon.

Andy King

Zero tolerance

GW in conversation with sculptor Joel Parkes

A lifelong sculptor, Joel works with wood and metal, hand carving urns from single pieces of tree harvested from his own coppice located near Bridport in Dorset. The trees are so large and old that they are unable to pass through any processing machine, which is how his art form has evolved. He fashions and improvises their design using nothing more



One of Joel's Zero urns sanded to an immaculate smoothness

than hand tools. The urns' shapes are derived from the inherent outline of the trunk, exposing idiosyncrasies and beautiful elements within the wood. Letting the wood dry naturally opens fissures and rents, which are backfilled with pewter, coloured acrylic adhesives and gold leaf to strengthen the sculpture and draw attention to the beauty of its imperfection.

He says: "Staying true to the structure of the wood allows the urns to taper to a single graceful point of balance, creating dramatic arcs and a graceful mass. Carved geometric edges conversely defy the organic flow of the shapes and create a modern element. Each urn is unique in both scale and approach. Their beauty lies in the acceptance of their scars and anomalies. Just as in ourselves we understand the most beautiful



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Joel sands the rim of an urn



You can see the tree in the crevices and folds of this carved work



Joel sands the pewter

parts of us lie in the wisdoms of our experience and failures, when looking at the urns we see a sense of beauty which only time can sculpt."

After working with inferior tools for a while, Joel visited Axminster Tools near his home, which he describes as "heaven for blokes." It was here he discovered Mirka's sanders and abrasives and he hasn't looked back. "I decided to upgrade my tools because I push them really hard and my existing tools just weren't up to the task. I have to say Mirka's sanders are a joy. I've purchased several now and they're the best tools I own. Combined with Abranet discs, which mean my work is virtually dust-free, the sanders allow me to sand and polish without hampering the process. I can do anything to the wood and the tools flex with my imagination."

Joel trained at Chelsea College of Art, starting his career at Free Form Arts Trust, a pioneering public arts company established in 1969 with the purpose of putting people at the heart of

changing their urban environment by working together creatively. Here he worked for seven years on the regeneration of East London, creating various sculptures for The Shoreditch Trust as well as contributing to notable projects such as Shoreditch Park and Shepherdess Walk. Joel also won a Youth Justice Award for his years of work with local young offenders as part of his design team, his various public arts projects providing education and paid employment to those at risk of and recently out of jail. In 2009, after taking time out to travel around the world, he set up his own sculpting business creating private commissions for individuals and corporate organisations.

This year he is showcasing his latest series, called Zero, which can be seen on www.parkesdesign.co.uk

Love those curvy shapes, Joel, and the pewter appears amazingly molten.

Andrea Hargreaves

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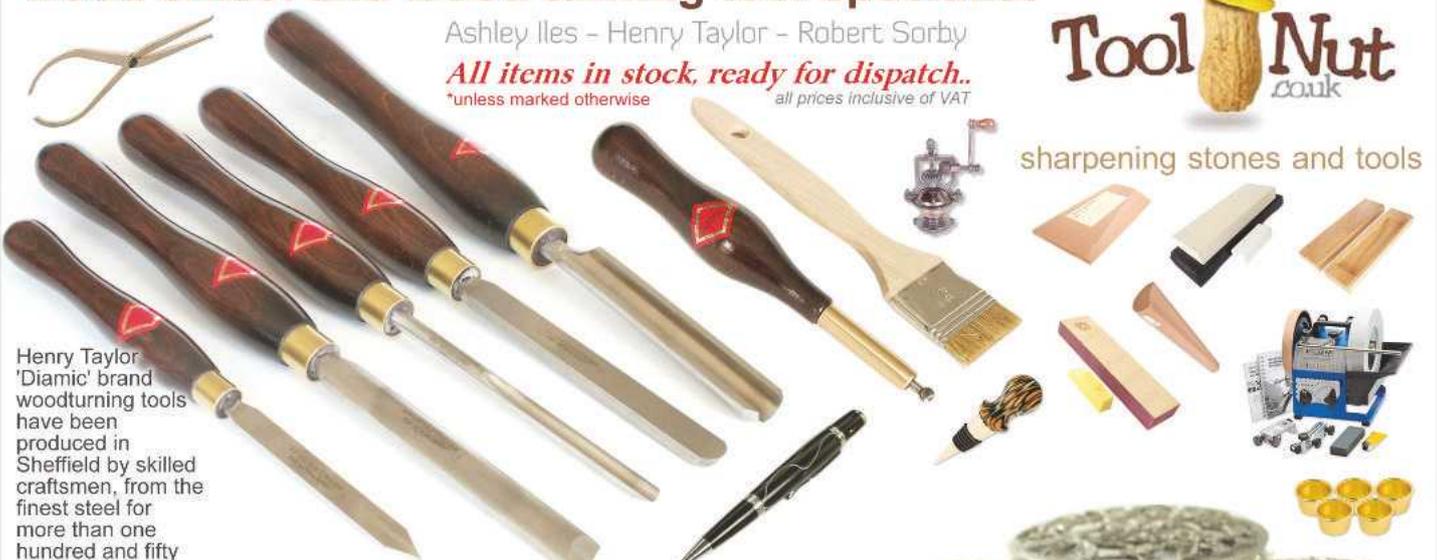
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Around the House

with Phil Davy



It was the most basic of mistakes. Making a replacement window frame recently, I

committed the cardinal sin of sawing on the wrong side of the gauged lines when it came to cutting one of the bridle joints. It couldn't be reversed easily as I'd already sawn the tenon shoulders. It wasn't that I'd failed to scribble in the waste section correctly before cutting, just that I wasn't concentrating. I'd like to think we've all been there, done that and learned from our stupidity, but coping with distractions can sometimes be part of the process. At least it was only softwood and not something far more expensive...

Phil Davy

Phil Davy, Consultant Editor

Book review

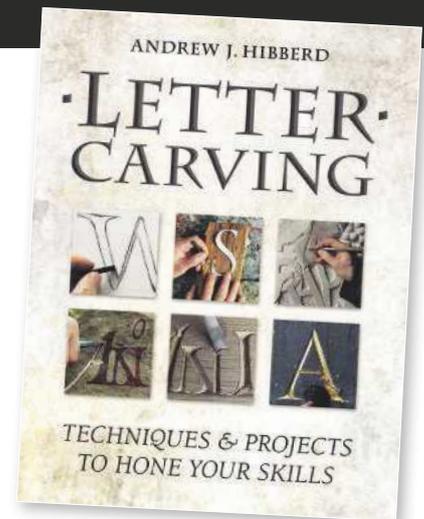
Letter carving

by Andrew Hibberd

There are probably one or two specialist woodworking disciplines that most of us have avoided but admire from a distance. For me, one such area is letter carving, which can look dreadful if done carelessly. Poor spacing and less than crisp letters stick out like a sore thumb, but on an appropriate piece of furniture an elegant inscription can really set it off. This book aims to guide you through the learning process and concentrates not just on wood but on limestone and slate too.

A brief history precedes letter structure, followed by a basic introduction to tools, sharpening and techniques. Several pages of profiles point you in the right direction regarding carving tool choice. An emphasis on practising brush and drawing skills means that you'll develop a feel for fine lettering before setting chisel to wood. This is a craft that takes time to develop, so if you're in a hurry it's probably best to look elsewhere.

Once you're reasonably proficient at letter carving, gilding can really enhance a project, and a chapter explains this process clearly. Power tools are not ignored, with a section on freehand routing techniques to speed up the process. Eight carving projects follow,



increasing in complexity. These include a house sign with Gothic font, a decorative breadboard, wood blocks for printing and an ornamental oak bench.

A thorough guide, then, to what could become an absorbing new hobby. Instruction is clear, and photography and layout are excellent.



Published by GMC

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Q&A

Q I'm considering buying one or two small machines for my workshop, but realise that the building itself could be vulnerable.

Although a timber shed, it's well insulated and the exterior has been well maintained. Any suggestions on improving security would be welcome, please.

A Cotton, by email

A Doors and windows are more obvious entry points than cutting a hole through the cladding, for example. Concentrate on these areas first. Not only fit a substantial padlock, but hidden security hinges on the door (try Ironmongery Direct or Screwfix). One

of the most effective devices on my own workshop is the Shed Security Bar, which locks right across the door and prevents forced entry (www.rivenglenproducts.com). Window locks are cheap. You could replace glass with acrylic or polycarbonate sheet, though this is pricey. Either install metal grilles or rods across the inside of windows, or heavy MDF panels that can be lifted quickly into place once you've finished working. Alarms can be fitted to doors and windows and a passive infra-red device above the door to illuminate the area if somebody passes in front of the beam after dark, though you may need to adjust this to prevent animals setting it off.

Summer project

Takes: **one weekend**

TOOL RESTORATION



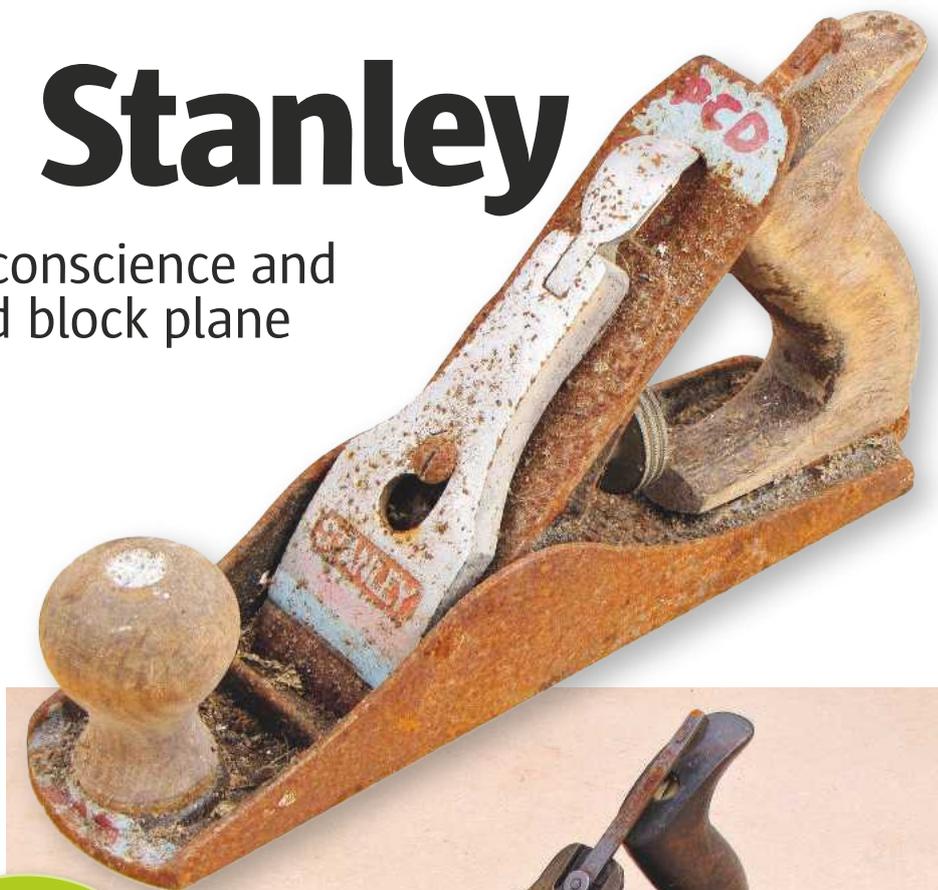
Saving Stanley

Phil Davy obeys his conscience and gives a neglected old block plane a new lease of life

 It's surprising what turns up when you're having a major workshop re-organisation. Before replacing the roof a few years ago a small leak in the old bituminous felt had actually caused a fair amount of damage. One of the sadder victims was a Stanley bench plane that had been hiding in a box in the corner. It was in a pretty bad state and probably would have been chucked out by many people. I'd bought it some 40 years previously when leaving school and heading for college. Back then we tended to use a No.3 smoothing plane for finer work on musical instruments, though later on for joinery and general woodworking a No.5 jack soon became my favourite.

Stripping down a bench plane is easy enough, but where do you start when there's so much rust? Not surprisingly, I used a range of Restore products, some of which I talked about when restoring a Record vice back in GW280. Although the Pre-Clean Degreaser is not essential here, it helps if there is oil or grease to remove first. Next, after soaking items in diluted Rust Remover surfaces will have a grey deposit, which can be cleaned off with fine abrasives and steel wool. When rinsed and dried with a heat gun, the body interior and frog were treated to Hammerite Smooth black paint. Although Restore eliminated surface rust from the chrome-plated lever cap, slight

Tools you'll need
Shield Technology products, gloves, bucket, abrasive pad, steel wool



Phil didn't touch the rosewood handles on the USA Stanley



The Restore kit

pitting is still visible and inevitable I guess. Still, the completed plane looks a treat and will be stored more carefully in future!

Also receiving similar treatment – though far less rusty – was an old USA-made Stanley No.4 bench plane which I bought a couple of years ago. This time I left the handles alone as they appeared to be rosewood and had a lovely

patina. The rear tote broke in half when I removed it from the tool, having been repaired at an earlier stage in the tool's life. After tidying up the mating surfaces and regluing, it was ready to be refitted to the plane.

For more information on Restore Rust Remover and similar products, visit: www.shieldtechnology.co.uk

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1 Rust on this No.3 bench plane was pretty bad following water damage in the workshop



2 After stripping down the plane, metal components are dunked in diluted Restore Pre-Clean Degreaser solution



3 Rinse with hot water, then completely submerge tools in Restore Rust Remover for several hours



4 Wash off grey deposit from metal surfaces with abrasive pad. Rinse and dry components with heat gun



5 Steel wool and fine abrasive paper will help to get those tarnished steel surfaces brighter again



6 Remove old lacquer from handles with Dremel tool and hand sanding. Bleach wood if surfaces patchy



7 Stain if handles are beech, which looks too pale when stripped, then apply finishing oil or similar



8 Brush on two coats of Hammerite to painted areas of body (no primer or undercoat needed)



9 Re-assemble plane and regrind blade. Apply Restore ProtecTool wax or Camellia oil to bare steel surfaces



10 Restored No.3 Stanley smoothing plane brought back to life and honed for workshop use



11 Rear tote on this No.4 plane broke in half when removed. Clean up surfaces to be joined and re-glue



12 A USA-built Stanley after similar treatment. This tool has rosewood handles, rather than beech



Out & about



The 5Ah battery works across the One Plus range

Smart Ryobi

After last year's sneak peek at Ryobi's newest power tools, it was hard to guess what else could be hiding up its corporate sleeves for 2015 and beyond.

The annual jaunt to France with Andy revealed plenty of exciting products ahead from this innovative manufacturer, though, and even led to a spot of impromptu competitive woodworking before heading home.



These two look as if they'll be go-to tools

Cordless sanding

Several new tools are based on the excellent One Plus 18V system. With most professional power tool brands now featuring a 5Ah battery option, Ryobi is arguably the first to launch a version for consumer products, extending cordless tool performance further than ever. Physically it's not that much larger than the 4Ah pack, but run times increase considerably – perhaps not that important for someone

Brushless motors last longer



drilling a few holes occasionally, but running something like a cordless sander will be significant. Of course, the 5Ah battery will be fully compatible across the wide range of One Plus products and existing tools.



Versatility added to power



Use this one on sheet material and constructional timber



The head on this multitool tilts through 90°

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Look at the angles possible on that!

Talking of cordless sanders, we spotted a nifty pair in both palm and orbital formats. Although prototypes, these seemed pretty user friendly and will no doubt become indispensable tools when fitted with 4 or 5Ah battery packs.

Saw, drill & multi

Ryobi's gutsy 18V circular saw has had a major facelift and now features a 52mm depth of cut. It looks fantastic and is sure to become a mainstay for cutting both sheet materials and constructional timber. Cordless drills are becoming increasingly sophisticated, with brushless motors a major step forward. This means less maintenance and a longer tool life. Also spotted was the 4-function One Plus SDS hammer drill, which now has a chisel facility for wall chasing. The old model was powerful, now it's much more versatile.

Ever found a multitool slightly awkward to handle for some tasks? Ryobi's solution was to develop a head that tilts through 90°. Although there was no time to take this tool for a spin, it does look rather clever.

A couple of powerful 18V work lamps complete the One Plus line-up, suitable for

workshop, garage or even emergency use. The first can be unfolded or swivelled into a number of poises, while the second is a rugged Hybrid unit that also runs off mains power.

PhoneWorks

Statistics for smart phone sales around the world are staggering, so it's perhaps no surprise that Ryobi has developed technology that harnesses their potential. PhoneWorks consists of an array of measuring and detection gadgets that clip to your phone instead of having to use expensive and often bulky standalone tools. Each one comes with an appropriate app to download. Laser measuring tools and stud detectors are ten a penny these days, but to have a tiny one attached to your phone instead is amazing. For woodworkers in particular the moisture meter must be one of the most useful PhoneWorks developments and is likely to be reasonably priced.

So, yet another glimpse at Ryobi's groundbreaking technology. Where will they be heading next, I wonder?

This Hybrid also runs off mains power



Moisture meter? Pass the phone...



On your marks...



Garden blowers provided much-needed oomph

Cordless karting

So, what about that woodwork session? Split into several European teams, we had one hour to design and build a go-kart, with a stack of Ryobi cordless kit at our disposal. Faced with a pile of OSB sheets, carcassing timber, wheels and axles, we set to work. Making it up as we went along, the idea was to complete a lap without the kart collapsing. Although our team didn't actually win, at least our driver stood on the podium. Well, there were only three teams competing at the time...

Our kart was definitely the most stylish and given more time it would have got the Mercedes F1 boys slightly worried. Admittedly a cordless chainsaw in the build would have been good, though we did get a pair of 36V Ryobi garden blowers on board to provide a bit of turbo boost! Our kart was powered by cordless Mr King, only a few tenths of a second off the winning lap time. A more intensive training regime next year, Andy...

A slightly unusual challenge, it certainly highlighted the versatility of the One Plus concept. With numerous power tools to choose from we only needed a couple of batteries between us.

Useful kit: Matsumura

Inspired by Japanese tools



The single bevel is incredibly sharp



The hollow backs are typical of Japanese edge tools



The two handle diameters depend on blade width

 Japanese woodworking tools have been available in Britain for decades, although the Niwaki name is a relative newcomer. The business was conceived by topiary consultant and writer Jake Hobson, who spent several years working in a traditional Japanese tree nursery. An appreciation of oriental cutting and pruning tools and techniques led to the introduction to these shores of a rather unique Tripod Ladder, the first in a growing range of garden products. Renowned for the quality of their steel, Japanese kitchen knives, axes and steps soon arrived, followed more recently by a line of woodworking tools. At present this includes saws, planes and ten hand-forged bench chisels (from 3mm to 42mm).

I tested a narrow 6mm chisel and a fairly wide 30mm tool, both of which come in splendid decorative cardboard boxes. Polished blades have a single bevel (a tad over 25°) and are incredibly sharp; in fact, they're ready to use with no honing necessary. Blades are from white paper steel (harder) laminated to low carbon jigane steel (softer) for durability. All have distinctive hollow backs, a characteristic of Japanese edge tools. The unfinished white oak handles are tight-grained and silky smooth, creating a lovely grip. There are two handle diameters depending on blade width. Each chisel is fitted with a steel hoop and designed to be struck with a hammer. At £45 for the narrowest chisel, these are not cheap and the widest (42mm) will set you back closer to £80, but that's still less than a 25mm Veritas chisel... and if you've never used Japanese tools before then you're in for a treat!



Typical price: £45 (6mm), £69 (30mm)

Made in: Japan

Web: www.niwaki.com

Useful kit: Matsumura hammer



The white oak shaft is wedged into the lacquered steel head as you'd expect

 This hammer is perfect for use with Japanese chisels or any task in the workshop where a conventional claw or cross-pein hammer would be too heavy. Weighing less than 130gm, it has an overall length of 360mm. Again fitted with a slender, unfinished white oak shaft, this is wedged into the lacquered steel head in the traditional way. Octagonal in section, one striking face is flat while the other is slightly convex. An indent underneath helps identify which face is which, though this is not easy to see when in use.

The extra long shaft means the tool balances nicely, though it could take some getting used to depending on the task. Whether it's adjusting the cutting depth on a Japanese plane, striking a chisel or simply driving home small nails, this is another simple but delightful tool from Niwaki.



Typical price: £34

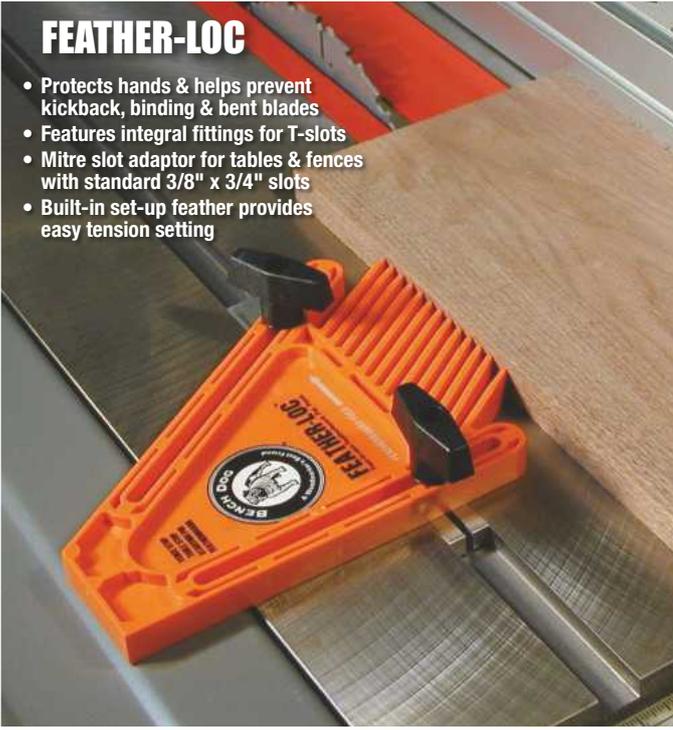
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AD/15/08A

Useful commission



Les Thorne turns lamp bases to be sold in a gallery

Getting commissions is a large part of my business. It doesn't matter if they look difficult, boring or downright crazy, they all get looked at and priced. I supply the Dancel gallery in Abbotsbury, Dorset with many items. This is a shop that specialises in wooden giftware and art, so when the owner, Danielle, contacted me about making some lamps I was eager to know more. The lamps in question were designed and were currently being made by Robin McEwan, and as he was retiring a new maker was required.

It took me a long time to work out a price for the material as I had to work out how many layers were required as well as the length of each strip. I had three designs in 11 sizes to make, and even with the help of my brother Stephen, who as a cabinetmaker does this type of thing daily, I did end up getting the quantities required slightly out. The plywood used is the top grade available from my supplier, with next to no knots in it. The thickness of the boards is 18mm, thicker means they are too heavy and thinner means more glue. I cut up the boards on the panel saw and stacked them ready for gluing.





▲ Pic.1 Unless Les had access to a veneer press he wouldn't have taken this job on. To clamp everything would be too time consuming because of the quantities involved



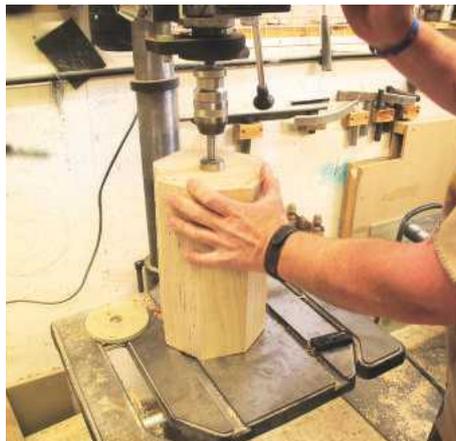
▲ Pic.2 The glue is UL39 formaldehyde, similar to the glue used in plywood construction, with a slow cure time that is perfect for laminate construction. 220 bar pressure certainly squeezes the excess out



▲ Pic.3 This is about a third of the blanks needed. Les cut them to length on the bandsaw. He found that a narrow kerf blade cut the plywood better



▲ Pic.4 He likes to get as close to his finish size as possible, because it's easier to cut away the wood with the saw than to turn it. He picks the middle strip of the ply and draws a circle to find the centre



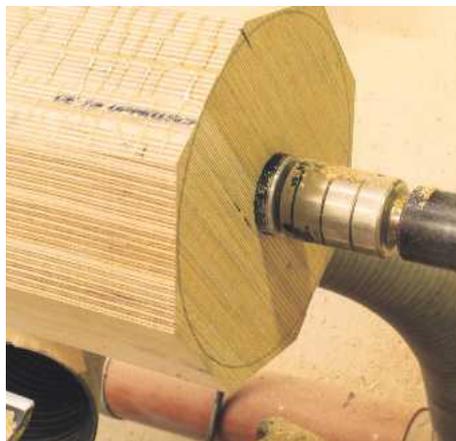
▲ Pic.5 You will need a large counterbore hole in the base to get the flex in the side and up through the centre. Les drills a 43mm hole in a base this size to a depth of 40mm



▲ Pic.6 Use the drill press to part drill a 7mm hole in from each end and then complete the through hole with a beam drill. For greater accuracy use the usual long-hole boring method



▲ Pic.7 Mounting the work between centres using the holes means a normal drive can't always be employed. Here Les is using Axminster's steeped drive but a counterbore drive would work as well



▲ Pic.8 The bottom is initially mounted up on the tailstock end. The diameter of the aluminium cone on my centre fits perfectly into the hole



▲ Pic.9 Protection is always important when working with wood but the dust from plywood can be particularly unpleasant, so smock, work boots and a full respirator is desirable

Turning



▲ Pic.10 The roughing gouge is braced to the side of the body and worked along the toolrest. Keeping the handle down low means the bevel is in contact with the wood



▲ Pic.11 You can see the difference between the roughing and the smoothing cuts. It will always tear out, you just have to make the best cuts to minimise the timber tear out



▲ Pic.12 Constant sharpening means that you will get the optimum cut. The Oneway jig makes touching up the edge of the roughing gouge simple



▲ Pic.13 The base needs to be slightly undercut to sit properly. Use a gouge with a push cut, but do not undercut too much because the baize will then look odd on the bottom



▲ Pic.14 Even though this is top-grade ply there is the likelihood of coming across defects in the wood. These don't seem to detract from the finished lamp base though



▲ Pic.15 Les has turned the base round. He likes to support the work on pin jaws, and these will hold the piece as he thins down the top. With increased tailstock pressure you could just drive off a cone



▲ Pic.16 The design calls for a curve about a third from the top, executed with the Robert Sorby bowl gouge that will keep edge longer than a normal M2 high-speed steel one



▲ Pic.17 Be aware that large pieces can splinter off as you are working through the curve. Make lighter cuts as you get nearer the finish shape to get the best finish off the tool



▲ Pic.18 You can just see the top wing on the gouge has been dulled off. As soon as you can see a cutting edge 'looking back at you' it's time for a sharpen



▲ Pic.19 Les doesn't like sharpening a tool that still has one of its cutting edges sharp, so will use a pull cut around the top so as to utilise both edges



▲ Pic.20 The waste area at the top of the lamp is turned down to the diameter of the brass plate that will hold the lamp fitting. Watch out for the plywood splitting at the top



▲ Pic.21 You will find it very hard to get the desired finish off the tool so use the jokily named 60-grit gouge to finish off the shape. Plywood does sand remarkably well



▲ Pic.22 Power sanding is not confined to bowl work and can be used on larger-diameter spindle work like this. Les cuts his 75mm discs from sheet with a hole saw with the teeth ground off



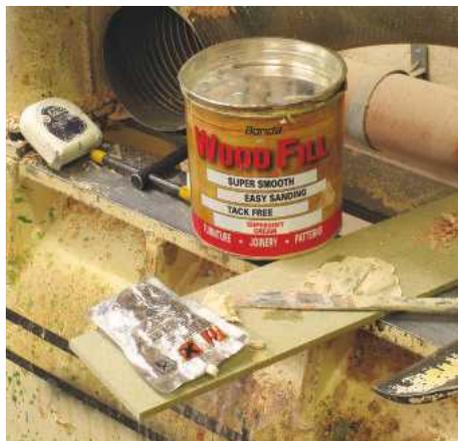
▲ Pic.23 Keep the drill down low. Sanding on the lower quadrant with a small gap at the top of the pad means that the drill will be easier to control



▲ Pic.24 You can see the amount of dust this will create. The 4in pipe cannot cope with these quantities so, as I mentioned earlier, please protect yourself from the dust



▲ Pic.25 You can now see the small voids that occur in the wood. There is little point in trying to turn these out as you will only find another one further down



▲ Pic.26 Use a good-quality 2-part filler. Trying to match the colour is difficult so he tries to find an average – a slow process as you can't mix up too much at once as it goes off fairly quickly



▲ Pic.27 Larger holes will need to be filled in in two goes. This one is a remnant of a knot in the birch. Apply the filler by hand with the abrasive on a cork block

Turning



▲ Pic.28 Les prefers to remount the wood and turn the last bit of waste away, but you could just cut this off with a saw. The small section needs to be flat for the brass plate to fit properly



▲ Pic.29 The general consensus of a straw poll was that these lamps look best with the side grain facing you. Pick the best side and then drill a 7mm hole into the opposite side for the flex



▲ Pic.30 Les experimented to find the best finish. Lacquer wasn't good on the end grain so he opted for hard wax oil, applying two coats with a light cut back between them



▲ Pic.31 You will have to hold on firmly if you decide to buff them to a nice sheen. He uses the brown compound on the hard wheel and then a light buff with the soft one



▲ Pic.32 You will always get a better price on the fittings if you buy in bulk. Les got some of the parts from his local electrical supplier and the extender tubes from a company called Peter Willets



▲ Pic.33 Les made a little jig to allow him to drill the holes in the top for the brass plate. For strength he chose 25mm-long screws



▲ Pic.34 The lamps are wired and tested by a local electrician. If you do it yourself you should get them tested to make sure you have done the job properly and safely



▲ Pic.35 The lamp bases do need to have baize on the bottom. The circle cutter will give you a perfect circle; scissors will not cut the baize clean enough



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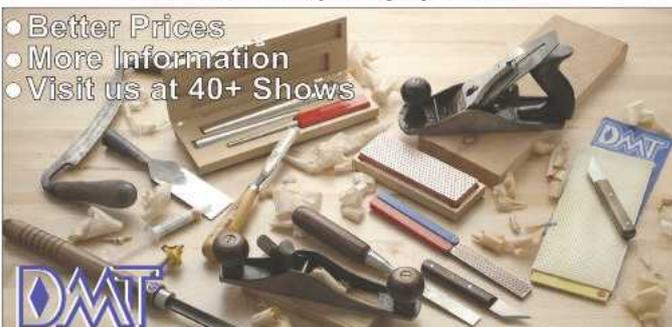
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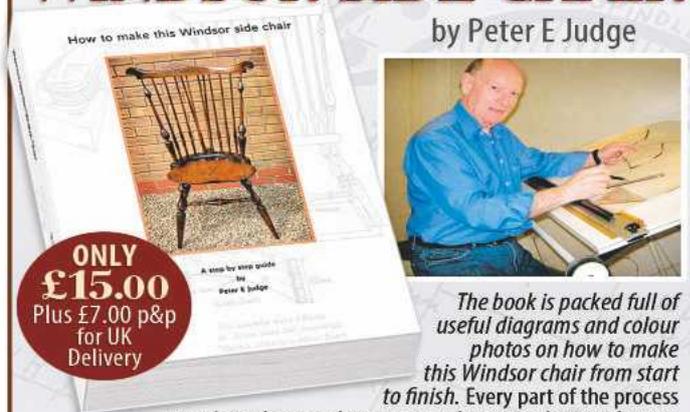
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PLUS...

Michael Huntley introduces the rule joint for drop-leaf tables, Dave Roberts proffers his own quirky but practical look at woodworking solutions, Andy King reports from his tool-testing workshop, Phil Davy keeps busy Around the House and Les Thorne gets on with some more turning



Michael Huntley's history of handles & back-plates



A selection of early brass drops



Solid backplates on the left, pressed backplates on the right

Well this is a big subject! I think rather than attempt (guess!) to discuss actual 'origins' it would be better to list chronologically the styles used. Handles for furniture obviously existed in ancient times, and a good idea of the decorative styles used can be found in Speltz, *The Styles of Ornament* or Meyers, *A Handbook of Ornament*.

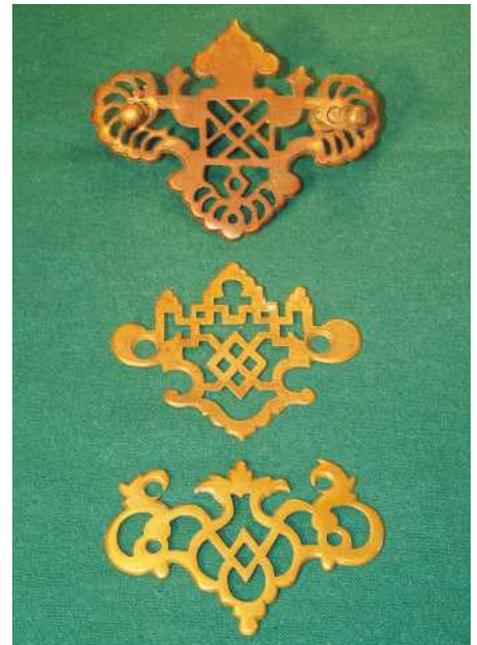
In terms of woodwork that might actually be viewed now, the best place to find early handles is in churches and cathedrals. These may date back to the Middle Ages ending with the start of the Tudor dynasty in 1485. Most early handles were made of iron, brass not being easily available until the 17th century. Solid drop handles were used in the 17th century. They were often fixed with straps that were pushed through a hole and clenched over on the inside of the drawer. The next phase of development was ring handles at the end of the 17th century. All these handles had



Handles dating from the early 18th century at the top to Edwardian at the bottom

decorative backplates to hide the holes for the straps or studs.

In the 18th century handles became larger and two holes for the studs or pommels were drilled with 'swan neck' handles fitted between the pommels. Backplates were solid in the early part of the century, but became fretted and more decorative as the century wore on. Towards the end of the century thin pressed backplates were used, often with neo-classical



Some nice examples of mid 18th-century pierced backplates

designs harking back to Greek and Roman times.

At the start of the 19th century Regency handles were rather weak in a structural sense, but after 1837 Victorian robustness soon prevailed and good solid handles were made. However, everything moves in generational cycles and fussiness returned towards the end of the century resulting in an opposite reaction that produced the Aesthetic and Craft Movements of the late 19th and early 20th centuries.

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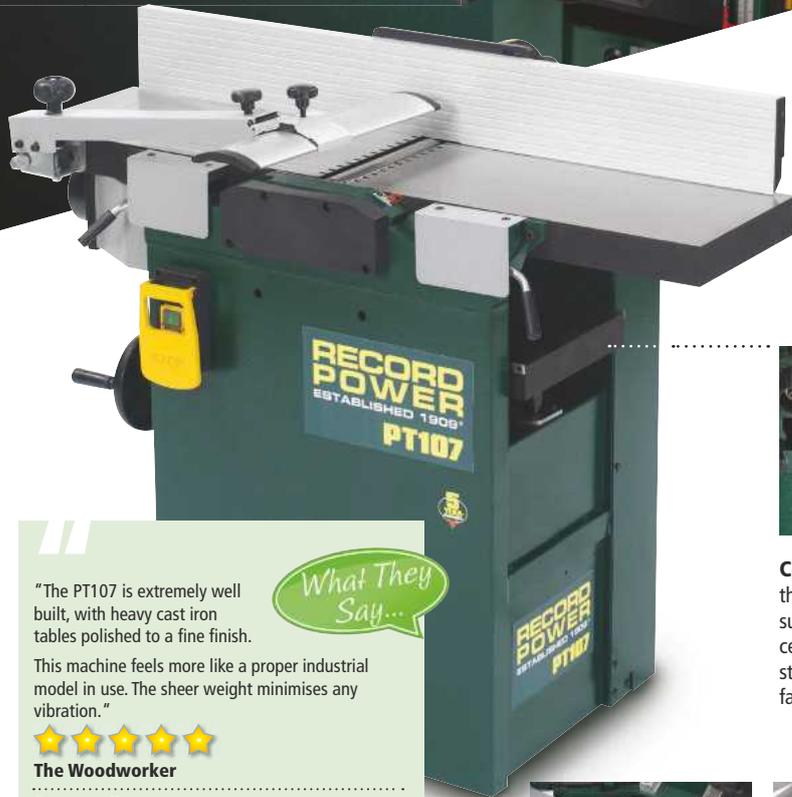
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